



THE ART OF

MARVEL STUDIOS

ANT-MAN AND THE WASP

SPEC. TTA271962

SUPVR. H. Pym

DATE

PROJECT: Ant-Man and the Wasp

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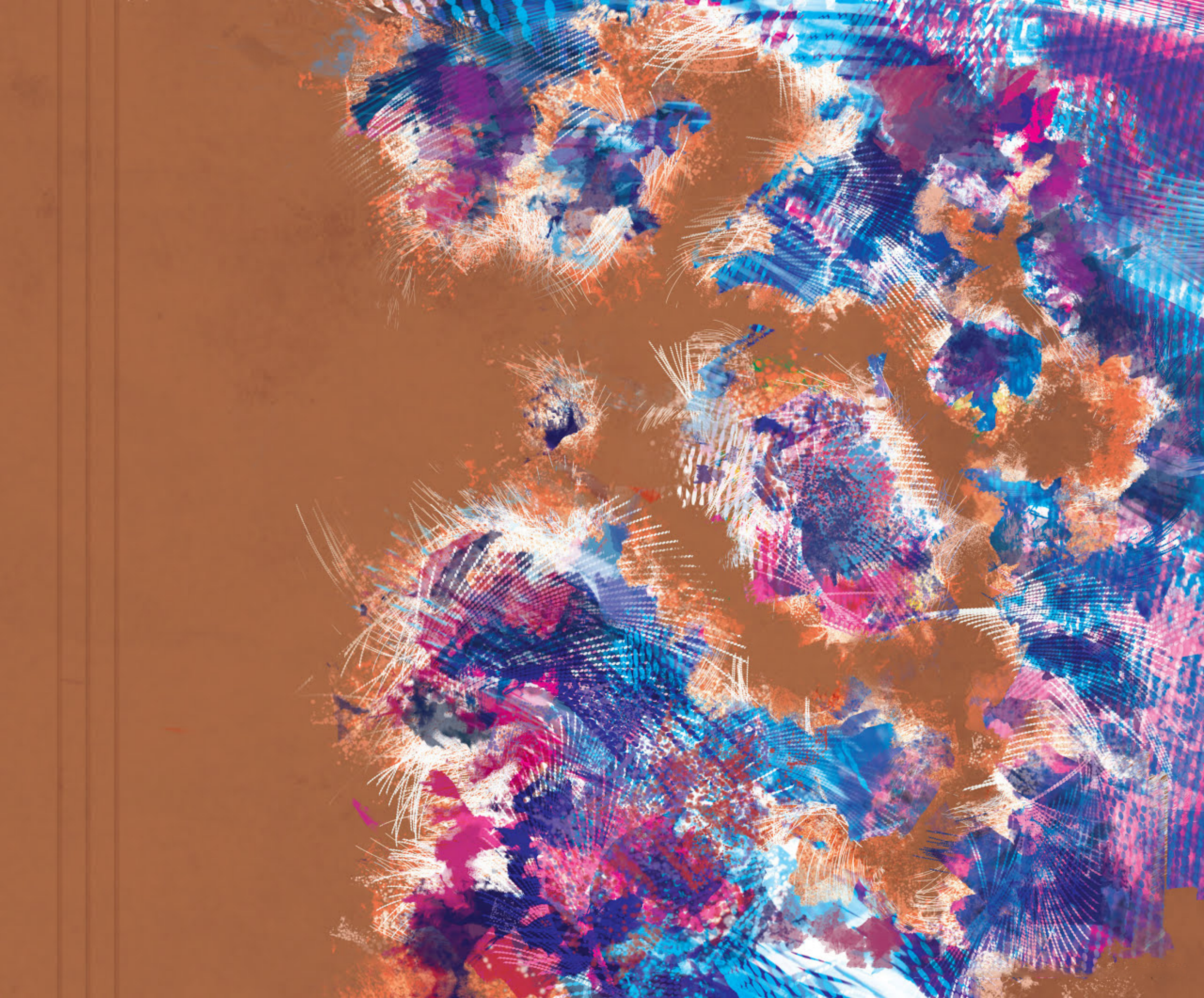
PYM TECHNOLOGIES

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TTA441963





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The background of the entire page is a dynamic movie art illustration. In the center, Ant-Man in his red and black suit is shown in a powerful pose, with a massive, bright yellow and orange explosion erupting from his chest. To the left, a soldier in a tactical suit is falling through the air. In the bottom left, another soldier is running towards the viewer. The background is a dark, stormy sky with falling debris and other soldiers in the distance.

THE ART OF
MARVEL STUDIOS
ANT-MAN AND THE WASP

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EISBN 978-1-302-51379-5

JOHN NEE, PUBLISHER

DAVID BOGART, SVP OF BUSINESS AFFAIRS & OPERATIONS,
PUBLISHING & PARTNERSHIP
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INTRODUCTION

The New Pym Technologies



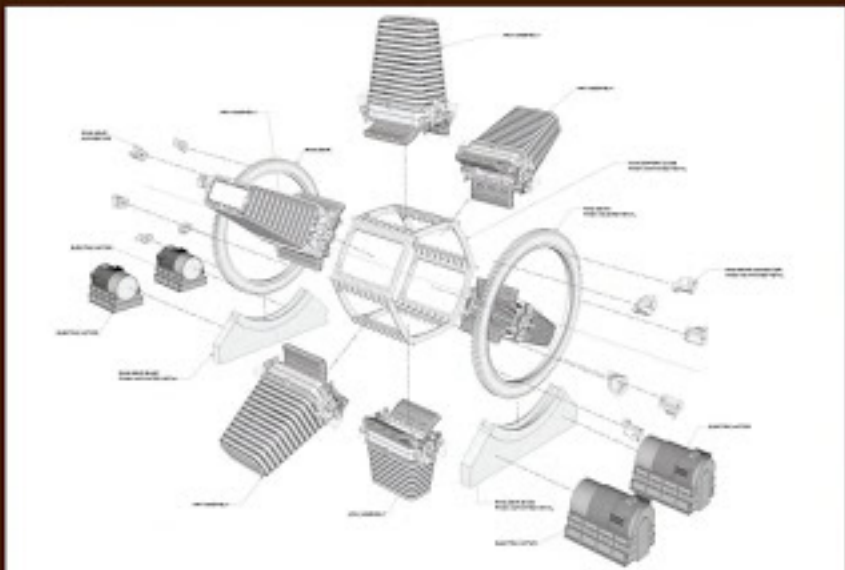
FOREWORD

Foreword by Peyton Reed



ANT-MAN AND THE WASP

Scott Lang
Hope Van Dyne



PYM TECHNOLOGIES

- Portable Lab
- Hank's Lab
- Quantum Tunnel
- Quantum Suit





HAUNTED HISTORY

Bill Foster

Ghost



ON THE LAM

The F.B.I.

X-Con

Sonny Burch



THE QUANTUM REALM

Quantum Realm

Quantum Vehicle

Life at the Quantum Level

The Wasp

Janet Van Dyne



AFTERWORD

Afterword by Andy Park

Contributor Bios

Artist Credits

Acknowledgments







HANK PYM LOG ENTRY:

Incredible things happen every day—and today was no exception. Scott Lang, the ex-thief Hope and I coached into becoming the Ant-Man, went subatomic to stop Darren Cross—and returned! I had always thought that entering the Quantum Realm would mean shrinking for all eternity, becoming trapped in a reality where the concepts of space and time were no longer relevant. You'd be gone forever. Scott proved this wrong. How did I not see that during those 10 long years I threw myself into my work, learning all I could about the Quantum Realm when my beloved Janet disappeared?

Janet—I thought I'd lost her forever, but to have even a chance of bringing her back to me... Nothing else matters. I have to try to rescue her. So it's time to dust off my old notes to see whether there's something I missed. I'll let Hope read them, too—she may see something I'm not.

My new purpose is clear: Find a way to enter the Quantum Realm and bring my Janet back home where she belongs.

Starting now.

— H.P.

HOW CAN A COMIC-BOOK HERO who shrinks and communicates with ants translate into box-office gold? When Marvel Studios announced plans to bring Ant-Man to the big screen, insiders and the general public alike were convinced it was a misstep for the studio and speculated disaster. The naysayers were proven wrong when *Ant-Man* grossed over \$519 million worldwide, far more than Captain America and Thor's first solo features, and catapulted the tiny hero into the mainstream.

With the success of *Ant-Man*, Marvel Studios executives quickly green-lit a sequel, wanting not only to continue the adventures of protagonists like Scott Lang, Hope Van Dyne, and Hank Pym, but also to explore a character referenced often but only seen briefly during the first film: Janet Van Dyne, A.K.A. the Wasp.

"The specter of Janet Van Dyne hung over the entire first movie," Executive Producer Stephen Broussard says. "It affected the relationship between Hank Pym and his daughter, Hope. Her disappearance left a big hole in their lives. How they dealt with that pushed them apart for many years and fractured their relationship. You started to see the beginnings of them healing and going back and talking about what had happened in that film. So Janet has always been a part of this franchise."

Family dynamics played an important part in the audience's response to *Ant-Man*—something filmmakers made sure would continue with *Ant-Man and the Wasp*. "The backbone of the first film was the relationship between Scott and his daughter, Cassie, and the relationship between Hope and her father, Hank Pym, and the fact that she lost her mother at a very young age," Marvel Studios President and Executive Producer Kevin Feige says. "As the [first] movie unfolds, we reveal that she was lost being a hero, being the Wasp herself, on a mission in the '80s, and she was lost to the Quantum Realm. At the end of the film, Scott finds himself stuck down there, and he's able to come out, and it's the first time Hank has ever been exposed to somebody who could go down there and come back. And that begins to set in his mind the idea that maybe he can go get Hope's mother back. So again, the family unit is continuing that storyline, and the drama that comes with that is continuing in *Ant-Man and the Wasp* with the idea of will they be able to find her lost mother."

It's this family dynamic filmmakers believe is the heart of the *Ant-Man* franchise. "The characters that we have to build on and the actors we have playing those characters are so compelling," Director Peyton Reed says. "My attitude toward this is you want to make a movie where the human element is the compelling thing. And, yes, there's going to be amazing visual effects and amazing action sequences because that's what these movies are. But in my mind, you want the movie to work without any of that. We've established these characters, and now we get to see what happens next."





FOREWORD BY PEYTON REED

Before *Ant-Man and the Wasp*, I had never directed a sequel. But as a filmgoer like you, I know what I like in sequels and what I dislike.

I like sequels that advance the characters in unexpected but organic ways. I like it when these characters grow (or regress) as a result of what life throws at them. I like it when their starting points are not the exact same places we left them at the end of the first film. And I like to be surprised.

I don't like sequels that are exact copies of the original. I don't like it when the characters betray what we know of them in the first film. And I don't like to be bored.

In *Ant-Man and the Wasp*, we wanted to further the stories of these characters in unique ways and put them in newer, weirder situations both dramatically and visually. In *Ant-Man and the Wasp: The Art of the Movie*, you'll see the visual evolution of the film: the ideas we honed and expanded upon as well as some we left behind.

I want to thank all of the deeply talented artists involved:

Thanks to Andy Park (who led our Visual Development team and went above and beyond for our movie), Jackson Sze, Tully Summers, Ian Joyner, Rodney Fuentebella, Stephen Schirle, Adam Ross, Anthony Francisco, Aleksi Briclot, Michael Kutsche, Josh Herman, and, of course, Ryan Meinerding.

Thanks to Jim Baker and his intrepid gang of artists and hacky-sackers at The Third Floor.

Thanks to Visual Effects Supervisor Stéphane Ceretti and Visual Effects Producer Susan Pickett for their immense talent and constant good humor.

Thanks to Stephen Broussard—executive producer extraordinaire, comedy connoisseur, and tireless partner in crime.

And thanks to Kevin Feige, Louis D'Esposito, and Victoria Alonso for inviting me to play in the Marvel sandbox again.

Cheers,

Peyton Reed



ANT-MAN AND THE WASP

HANK PYM LOG ENTRY:

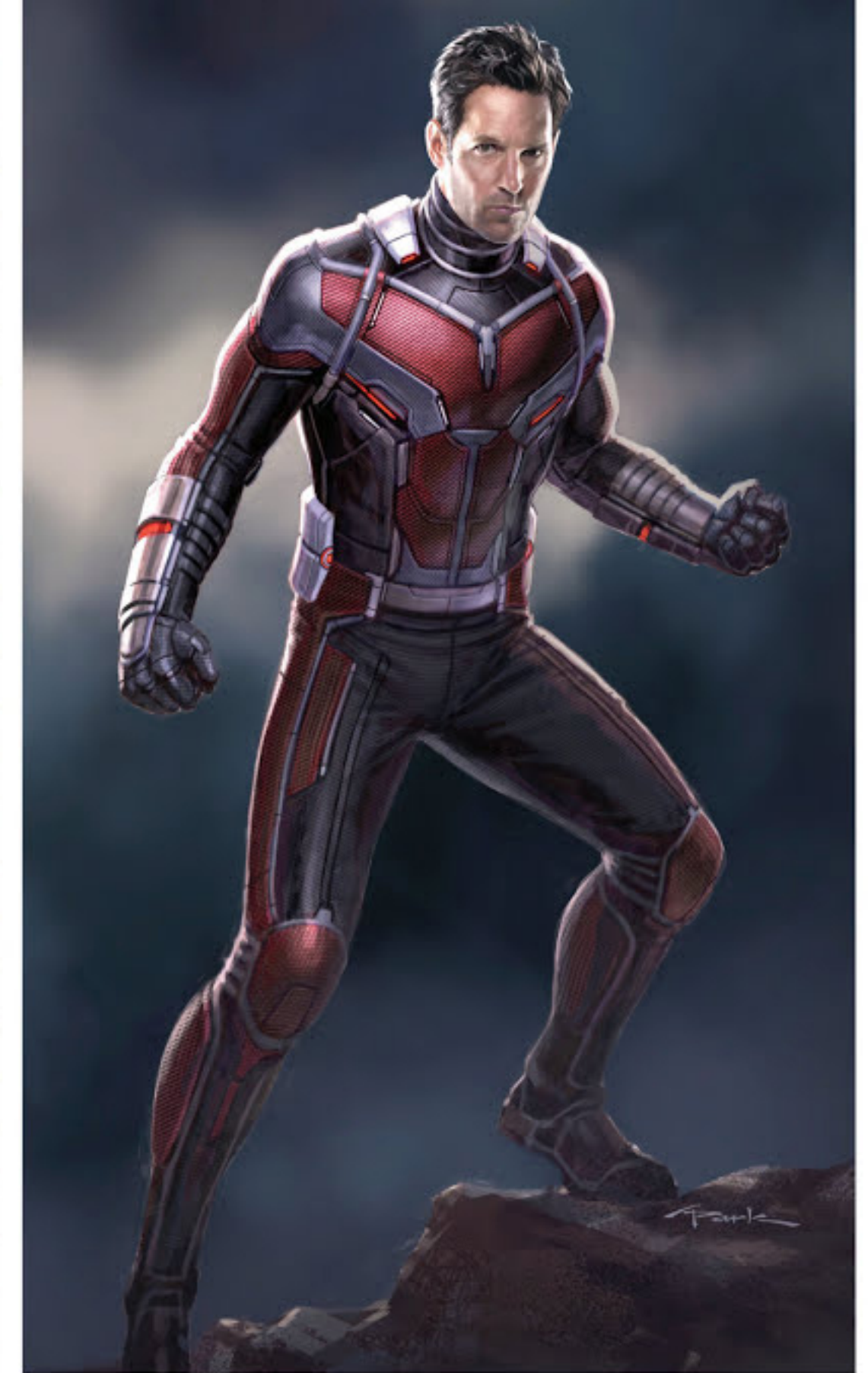
It's been 30 years since my beloved Janet, the original Wasp, saved the world from a Soviet ICBM and went subatomic. Now, our Hope has taken up the mantle as the new Wasp. And Scott, who I recruited to fill my Ant-Man suit when I could no longer wear it...well, I haven't decided what I want to do with him yet. — **H.P.**

While Hank Pym, Hope Van Dyne, and Scott Lang all ended *Ant-Man* on good terms, the repercussions from Scott's actions in his second on-screen appearance have drastically changed the group dynamics. "I'm under house arrest because of the events of *Captain America: Civil War*," says actor Paul Rudd, who plays Scott Lang. "I'm serving my time at home. When we pick up the movie, I've only got a little bit of time left, and I'm looking forward to getting out of my house and playing with my daughter and being able to go to her school events and being just a normal parent. Hope and Hank are also on the lam.

"We don't talk anymore. They're furious with me because when I was caught with their tech in *Civil War*, it alerted the authorities to them, and now they can't live their lives and do what they want to do without having a microscope on them. I want nothing to do with Ant-Man—but just when you think you're out, they pull you right back in."



SCOTT LANG



HANK PYM LOG ENTRY:

The Ant-Man suit is lost. Actually, that isn't quite true. Scott said he let the government take it. Simply unreal. And this after telling him over and over again about how I spent most of my life trying to keep my tech out of the hands of people like S.H.I.E.L.D. and Howard Stark. I guess he wasn't listening. Not surprising. His little stunt in Leipzig with Captain America cost me my most prized possession. Regardless, there's nothing to be done about it now. Only thing I can do in the meantime is make another Ant-Man suit. I'll change up the design a bit, though, and make some minor modifications. There's always room for a few adjustments, but there's no time to make all the changes I'd like. My time is better spent on more important matters at the moment. — **H.P.**

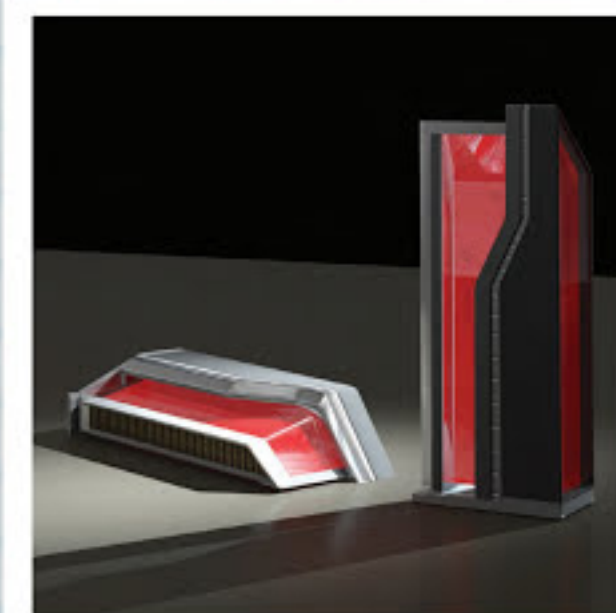


"I think one of the cool things about the MCU is that the hero suits are always changing and developing, and they're always pushing the tech forward," Director Peyton Reed says. "And definitely there have been some changes to the Ant-Man suit since *Ant-Man* and even since *Civil War*."

Overseeing the update was Visual Development Supervisor Andy Park, who also worked on the suits for *Ant-Man* and *Captain America: Civil War*. "For his current *Ant-Man and the Wasp* look, Hank has created a new, updated costume secretly," Park says. "He's on the run with Hope due to Scott's skirmish with the Avengers in *Captain America: Civil War*. In a lot of ways, I pulled back from the more extreme update of his *Civil War* look. I decided to create a look that was essentially a blending of the two costumes. There's a charm to the first *Ant-Man* look due to it being retro, and there's a nice sleek modernity to



his *Civil War* outfit. Taking the best from both worlds all while knowing that it is still a modern suit, I created Ant-Man 3.0. (That's not an official title—just what I call it.) I downplayed the big muzzle and ear pieces from *Civil War*, and brought back a lot of the materials and feel of the first suit. But I made sure to maintain an updated modern sensibility."





Portraying Ant-Man for the third time is actor Paul Rudd. "Paul has brought Scott Lang to life with so much humanity and heart and humor every day," Producer Stephen Broussard says. "He's so naturally funny and likable in everything that he brings to the character. He's also a co-writer of the film, just as with the first one, so it's literally his voice and his words on the page. He walks that line between a guy that can't get out of his own way—which is what Scott Lang is—and someone that you care very deeply for. Someone that, when he messes up or does the wrong thing, you can't help but still like him and want him to be pulled back into the role of hero. And having someone do that and walk that line is not easy. And that's a testament to Paul's innate abilities as an actor, as a comedian, and as a writer."



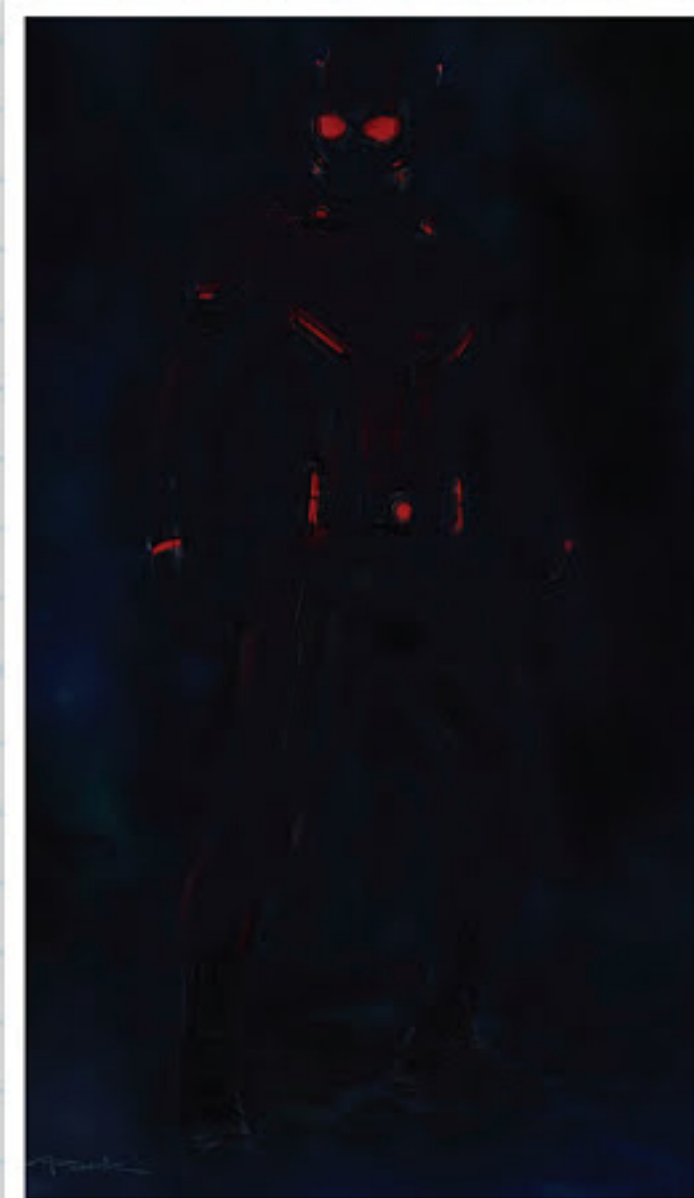
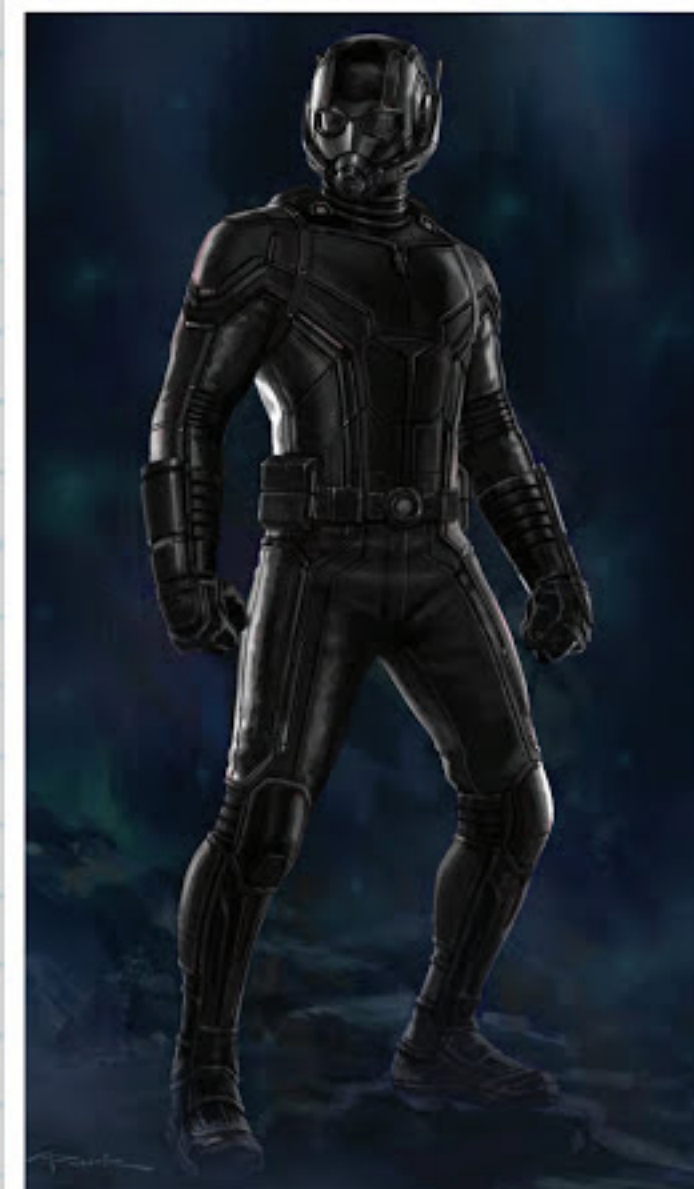




Fig. A.1 — Ant-Man



Fig. A.2 — Captain America: Civil War



Fig. A.3 — Ant-Man and the Wasp

“WITH EACH ITERATION, the idea was to show the origin of its creation, all by Hank Pym,” Park says. “He’s the creator of the Pym Particles technology, and thus the Ant-Man and Wasp suits. So much like Iron Man, the suits are technology-based, but due to its similar foundations, the design aesthetics necessitate an obvious visual distinction from each other. Stark’s sensibilities are always as sleek as can be, much like a fancy European sports car. Pym, on the other hand, is more old school. He comes from a former era so his sensibilities will be less fancy, a bit more clunky, but still state of the art. It was important to have visible technological components such as exposed piping, a big belt that holds the regulator, a backpack that powers the suit, and a full helmeted gas mask of sorts. Ant-Man’s whole look is to convey the idea that it’s a containment suit. Much like an astronaut’s suit allows the wearer to inhabit the harsh environment of space, his suit contains the Pym Particles that allow him to shrink or grow and to maintain that form.”



Fig. A.4 — Ant-Man



Fig. A.5 — *Captain America: Civil War*

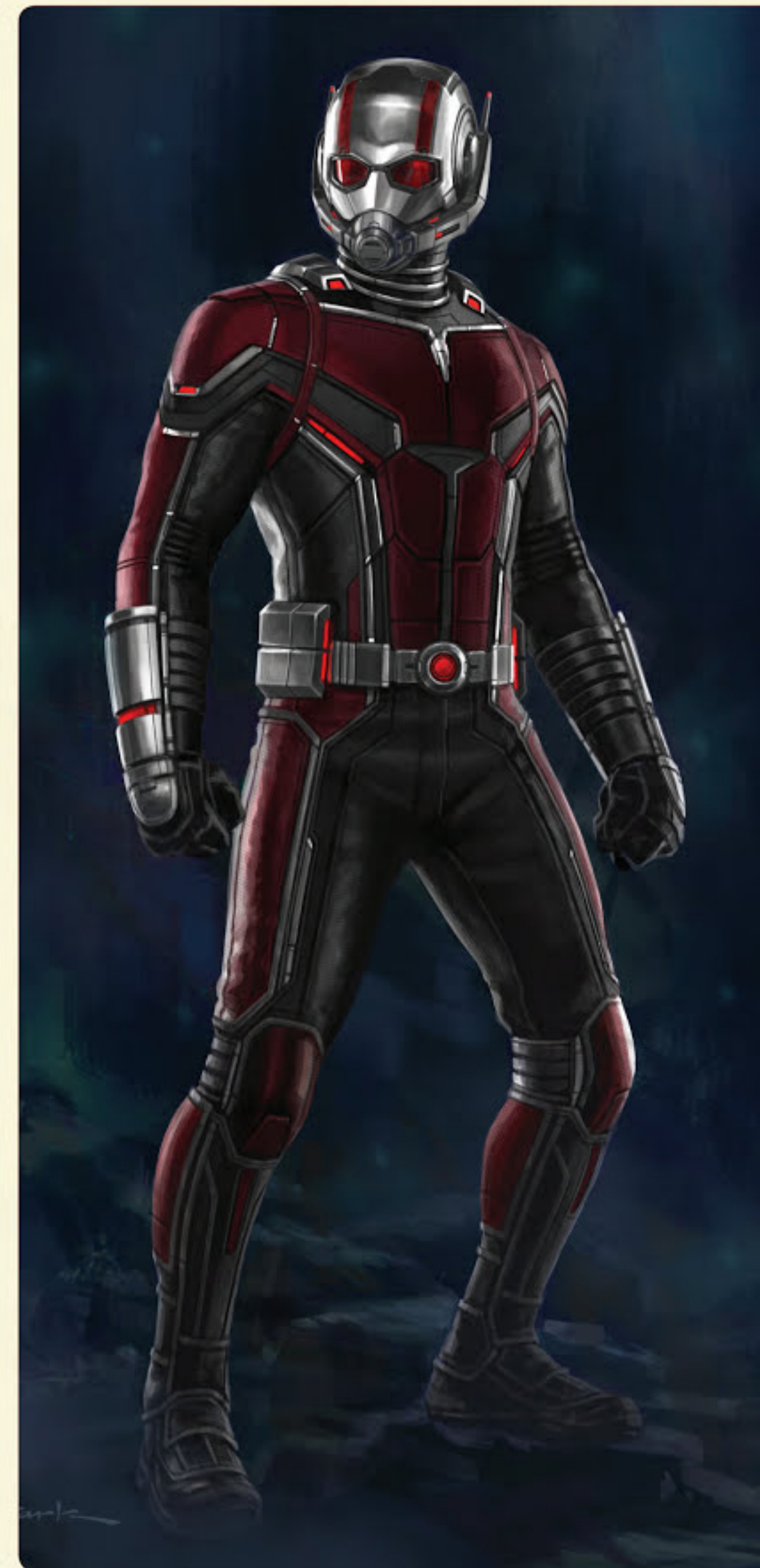


Fig. A.6 — *Ant-Man and the Wasp*

Pym Technologies: Ant-Man Arsenal Technical Specs

"ANT-MAN'S HELMET was going to need to have the ability to be hidden away in some significant fashion as the action in the film necessitated that it be able to open or disappear, revealing Paul Rudd's face, without him actually having to remove it on his own," 3-D Artist Adam Ross says. "Since that necessitates the helmet being able to open up or fold back, we wanted it to be in line with established Pym tech, and the characters of both Hank Pym and Scott Lang. After an initial discussion, VisDev Supervisor Andy Park took two of my renders of the 3-D model—one with the helmet and one without it—and did some Photoshop magic and came up with two initial versions for how it might work. The first involved an early Iron Man type of functionality where the faceplate retracted partially, revealing Paul's face. The second version had the helmet's front-most panels shifting around to the back of his head, creating a look sort of like a headset. After these first two passes got us started, Andy turned it over to me to continue pushing forward on it, seeing where it might lead.

"The original Ant-Man suit was designed by Andy Park as a by-product of the times—the late '60s and early '70s—and Andy did an amazing job of working in more utilitarian elements such as the visible round tubing on the outside of the suit that channels the Pym Particles to where they need to go. The suit appears to have a lot of rubber elements and leather—again, indicative of the level of materials tech available at the time. It's also indicative of the attitude of what we see in Hank Pym. He's all into the high-tech look, and he definitely has style, but it's also very utilitarian. We see this tech move forward quite a bit with the Ant-Man suit in *Civil War*—but mainly in form and style, not in function at this point as it relates to the helmet's folding capabilities. When I was given Andy's initial ideas and told to cut loose, I took all of these aforementioned things into account.

"I wanted its final look to mirror both the established attitude and style that Paul Rudd has brought to the character of Scott Lang,



Fig. B.1

but also have it reflect the pre-established design sensibilities of Hank Pym. Now, I'm no stranger to nerding out on the hows and whys of design in the MCU, but in this instance I took it pretty deep, even for me. I imagined what a design meeting between Scott Lang and Hank Pym might look like, and how they'd get into it over what looks cool vs. what is actually functional. I imagined that Scott would bring up how much more advanced-looking Tony's armor is, and how rad he would think it looked and functioned, pressuring Hank to do the same to a suit redesign. In turn, I imagined Hank pushing back, sarcastically, on Scott, asking if he wanted the helmet to open up like his new flip phone. In the end, I figured Hank and Scott would both come to a compromise and end up with a helmet that functions way more high tech than it used to, but not disappear completely. At the same time, its folded form would mirror Scott's style and attitude. The first idea that resulted from my nerding-out mental-judo session was what I went with: a hoodie. I figured it would be a form that Scott is comfortable with, so it would make him feel right at home in this new suit if it looked and felt just like that, a hoodie. I quickly sliced and diced the helmet model along logical break points and arranged them into the shape of a retracted hoodie, and then worked backwards from there. Most folks might not imagine that this type of thought goes into something as simple as how a helmet comes off the head, but I believe that to be a strong point here at Marvel. The small details are where we reinforce



Fig. B.2



Fig. B.3



Fig. B.4

the coolness and validity of the designs. And while most of it isn't at the forefront of someone's mind when they see it on screen, they would definitely notice if these details were ignored or deemed inconsequential. They really do underpin the design process here, and we have these crazy conversations more than you'd think!"

"I HAD EARLY DISCUSSIONS

with Peyton Reed about Scott Lang possibly going to the Quantum Realm," Park says. "He wanted me to design a look that was specific to that purpose: his Quantum Realm suit. Peyton wanted to explore a helmet that could expose Scott's face but still be protective. I came up with the idea that the helmet could have two modes: a normal mode with his helmet closed as we know it, and an alternate mode that had a transparent red blast shield come down after the front part of the helmet raised up to expose his face. It was an interesting idea that Peyton liked, but ultimately the story changed as is usual with these projects. Who knows? Maybe we'll get to see it in the future."



Fig. C.1



Fig. C.2



Fig. C.3



Fig. C.4

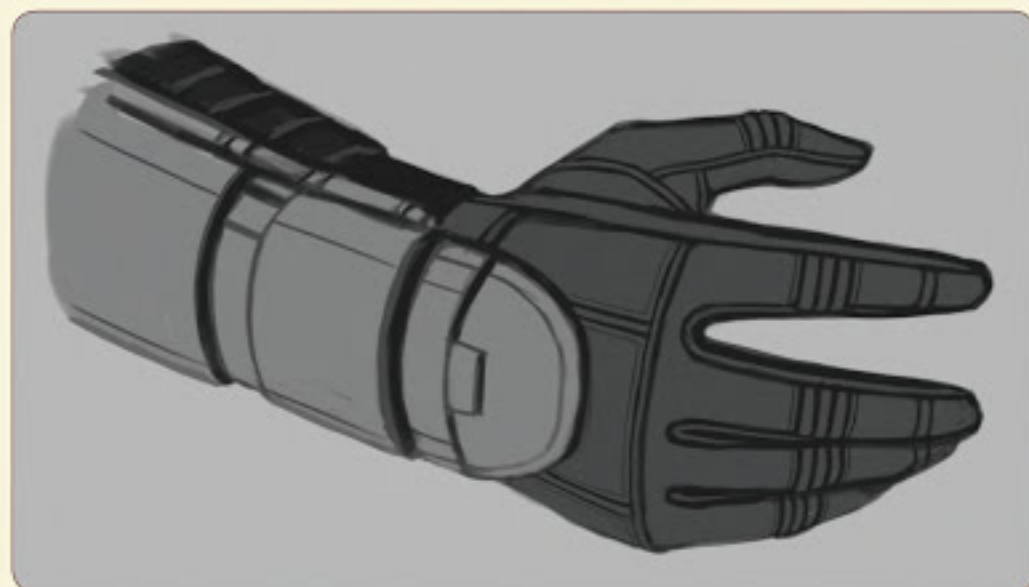


Fig. D.1



Fig. D.2



Fig. D.3



Fig. D.4

ALTHOUGH THE NEW Ant-Man suit is sleeker and more sophisticated, it still has a few bugs. "Hank Pym has a separate mission in *Ant-Man and the Wasp*," Reed says. "He's got a new set of concerns that he's dealing with, and unfortunately that means he's not had as much time to advance the Ant-Man tech as he'd like—or maybe to put it another way, he hasn't necessarily done the quality control on the suits that he might have done normally. Hank is usually a stickler for making sure everything works, but he's a little distracted in this movie with another mission, and it's not always the best thing for the Ant-Man suit."



Fig. E.1



Fig. E.2



Fig. E.3



Fig. E.4

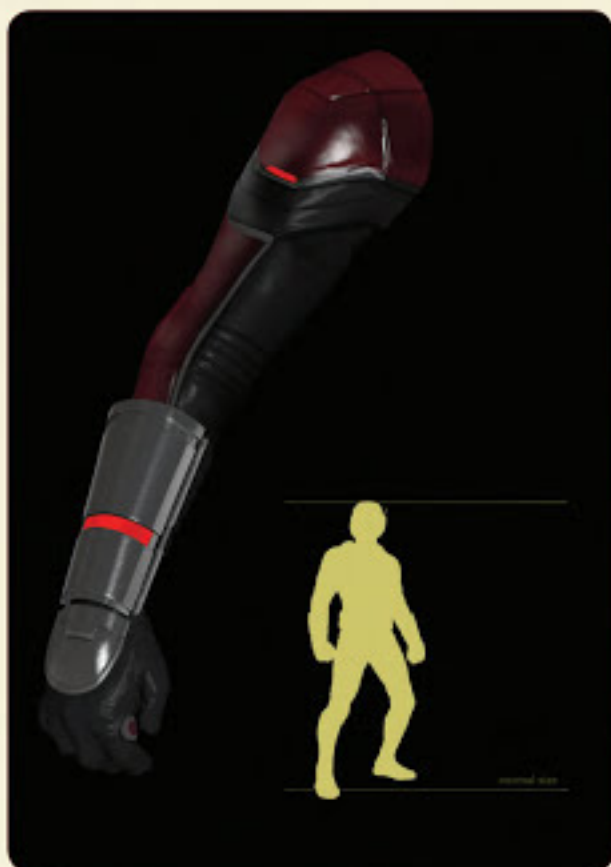


Fig. F.1

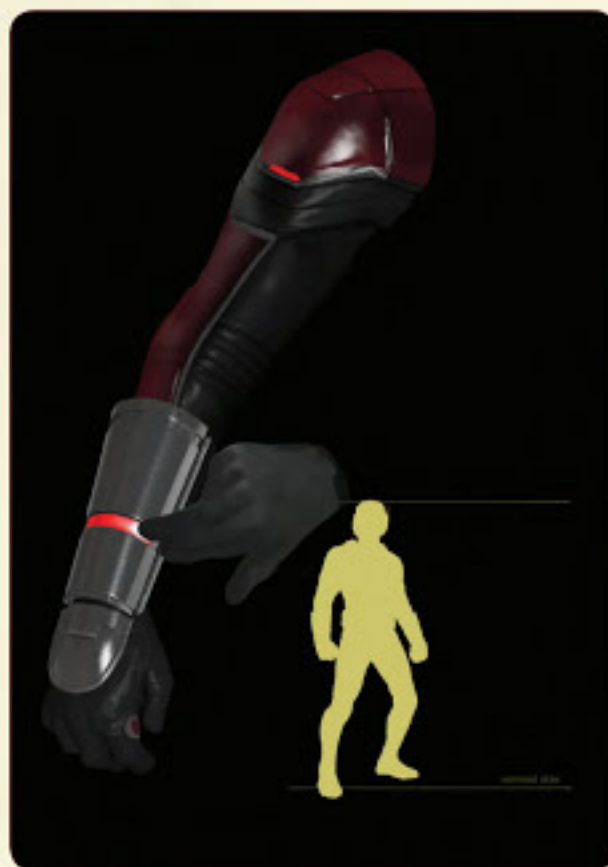


Fig. F.2

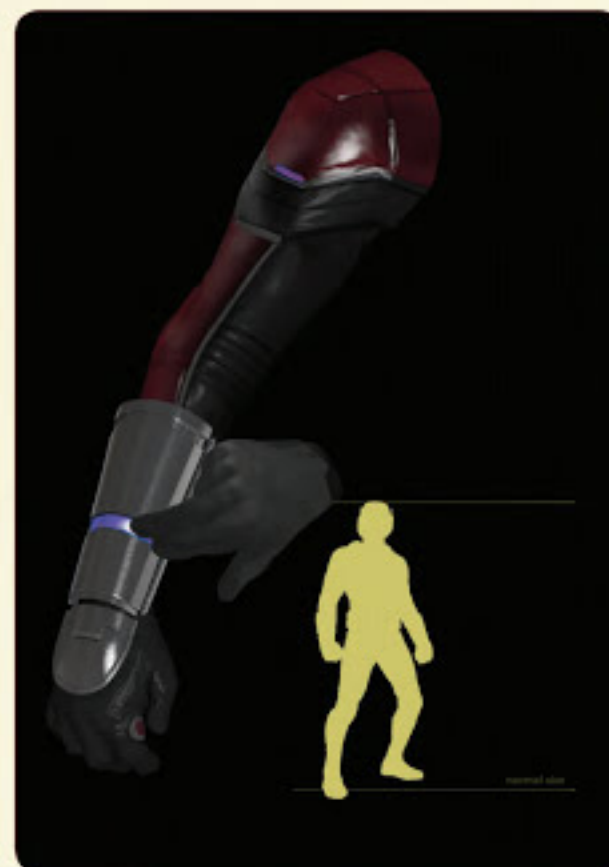


Fig. F.3

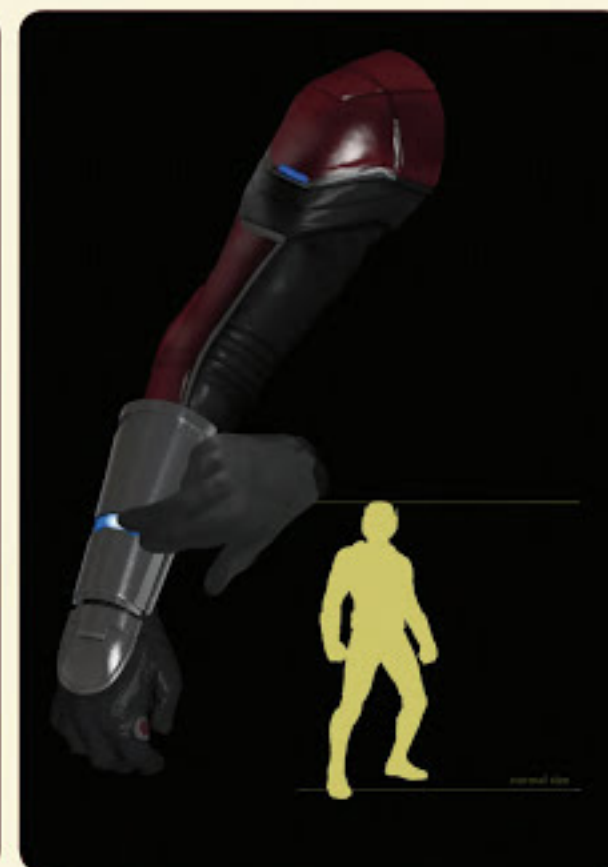


Fig. F.4

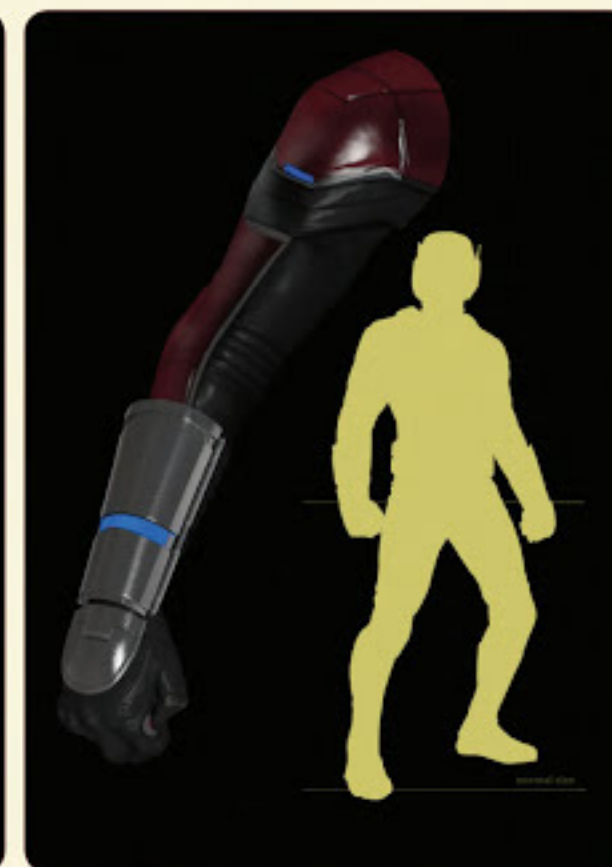


Fig. F.5

HAVING INTRODUCED ANT-MAN'S growing and shrinking abilities in his previous on-screen appearances, filmmakers set out to have fun with the concept. "Giant-Man is another aspect that we've only scratched the surface of in *Civil War*," Producer Stephen Broussard says. "It was a brief but memorable sequence, so we're definitely running

with more Giant-Man action in this one. We're also playing with the idea of, 'Well, if he can be Ant-Man and he can be Giant-Man, what about the sizes in between?' We've been playing with that concept in what we call Variable-Man, which basically could mean anywhere from two feet tall to eighteen feet tall, all the way up to 80 feet tall. And, of course, half

the fun of things like this is when that stuff starts to go wrong. So, you have Scott on a mission, on a heist, getting stuck at the most inopportune sizes—whether it's too big or too small—when stealth is needed, or when he needs to move fast and he can't because he's at a certain height. That's fun. It's almost as fun when the powers go wrong as when they work."



Fig. G.1



Fig. G.2



Fig. G.3



"The family dynamic is crucial to what the Ant-Man movies are in my mind," Peyton Reed says. "In the first movie, Scott's whole goal is to really just be a better father to his daughter—to be there. He's out of prison now, and he just wants to get on a straight-and-narrow path and be there for his kid, and that definitely continues in this movie. The events of the first movie really put his daughter's life in danger, and then after *Civil War* he could've ended up in this underwater prison for who knows how long and never seen his daughter again. So we definitely tell that story about Scott trying to figure out if there's room in his life to do this Ant-Man thing. And like we do in our normal lives, how do you find balance between your personal life and your work? And that seems like a really relatable dynamic for him, and it's a big part of who he is in this movie."

SIZE ►





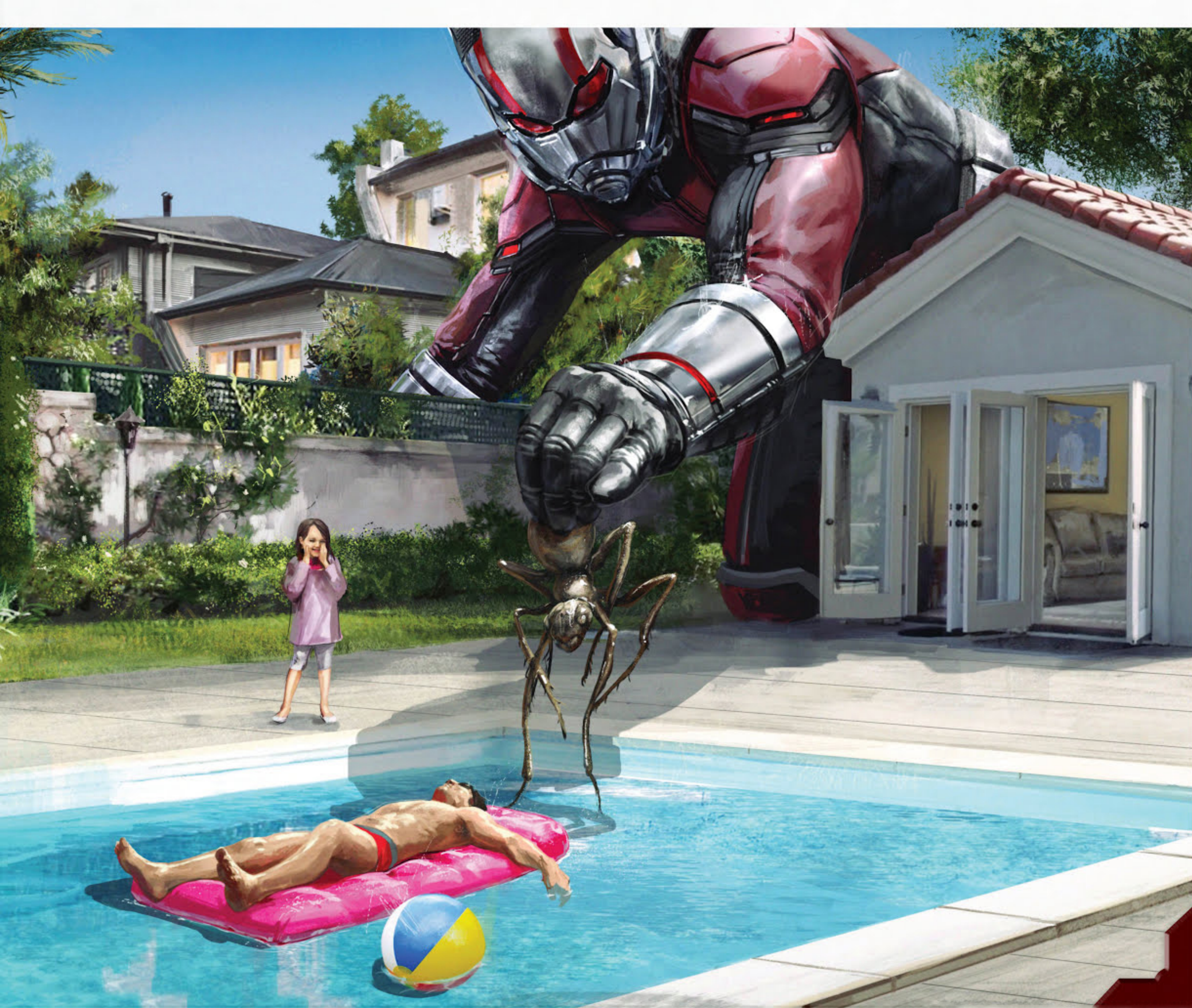
"I love the Ant-Man universe because it's not taking place in outer space, and it's not taking place in Asgard," Reed says. "It's the real, mundane, boring, normal world—but we get to experience it from these weird, radically different perspectives. And that, I think, is what's really, really fun about it. There's something really childlike about the Ant-Man power because it puts you down on the floor, where kids play with action figures, and it really does tap into that childlike thing."





TOP & MIDDLE **SIZE**; BOTTOM **JOYNER** ▲ **BRICLOT** ►

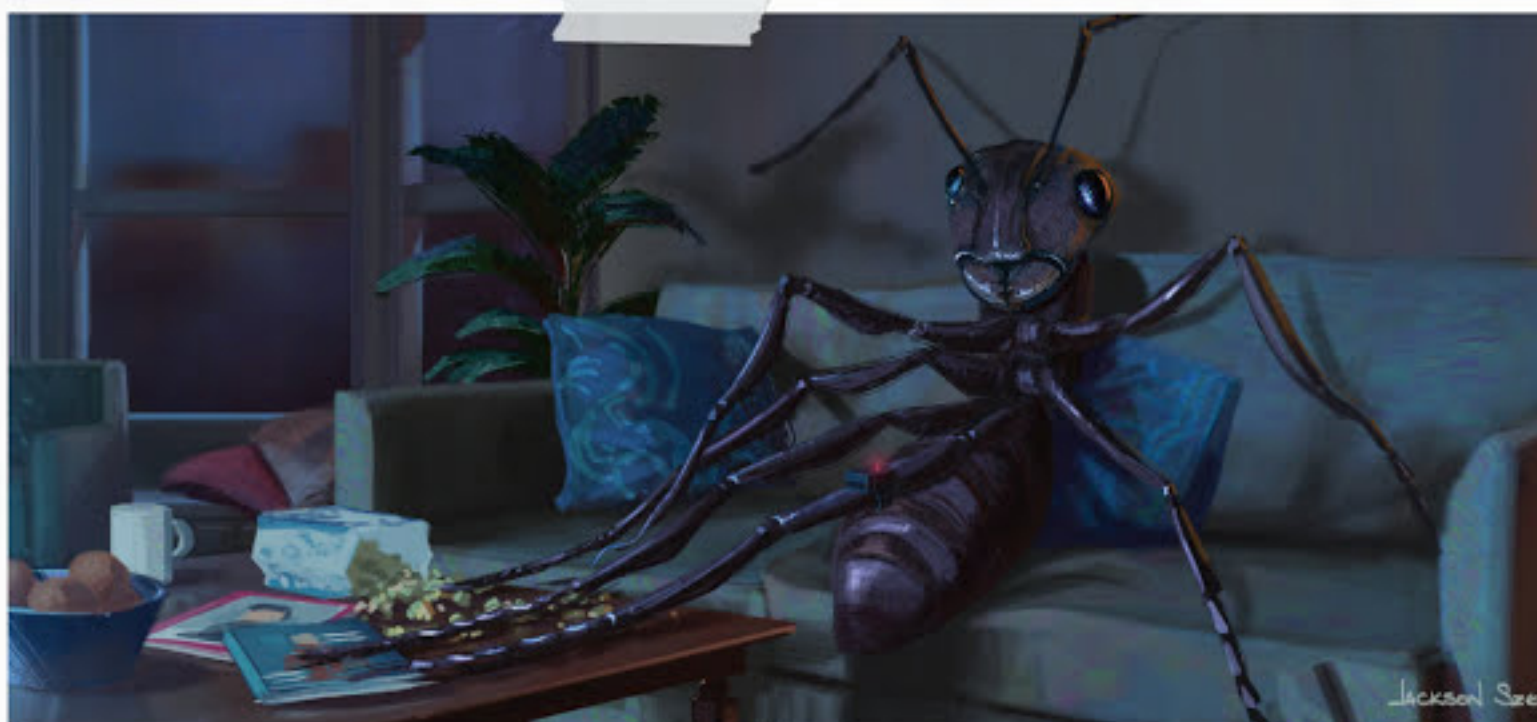






HANK PYM LOG ENTRY:

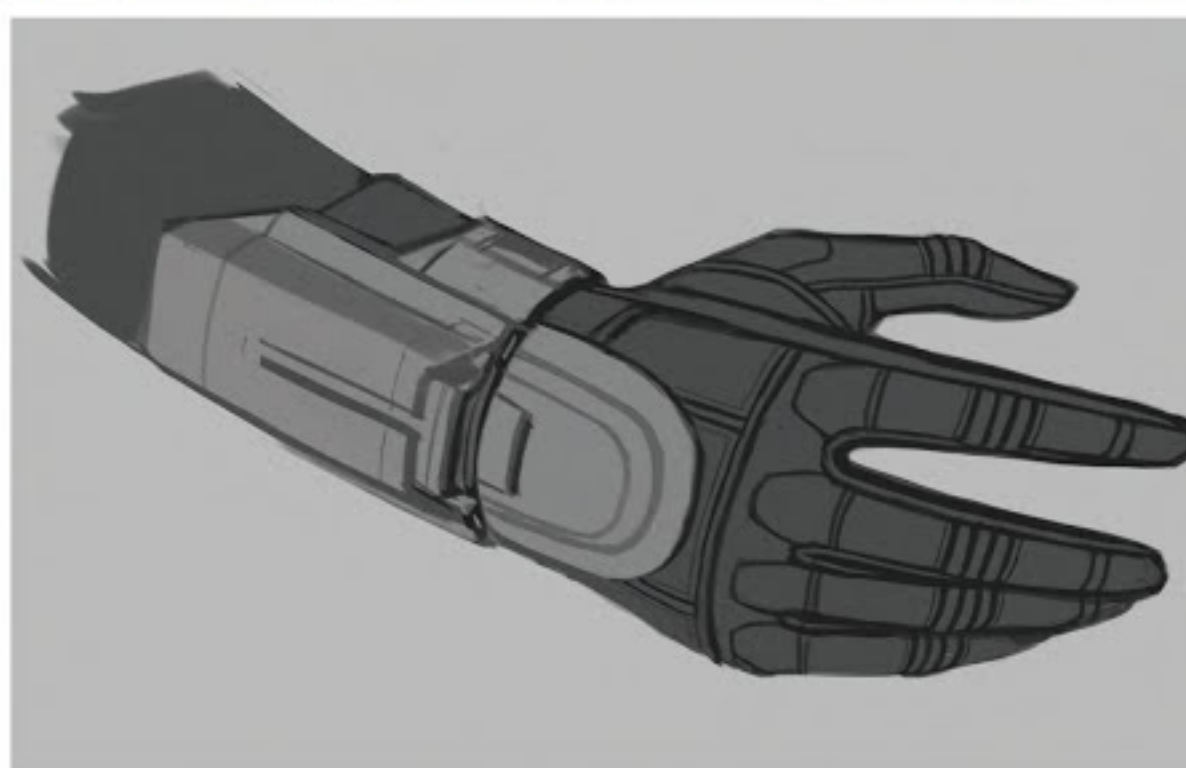
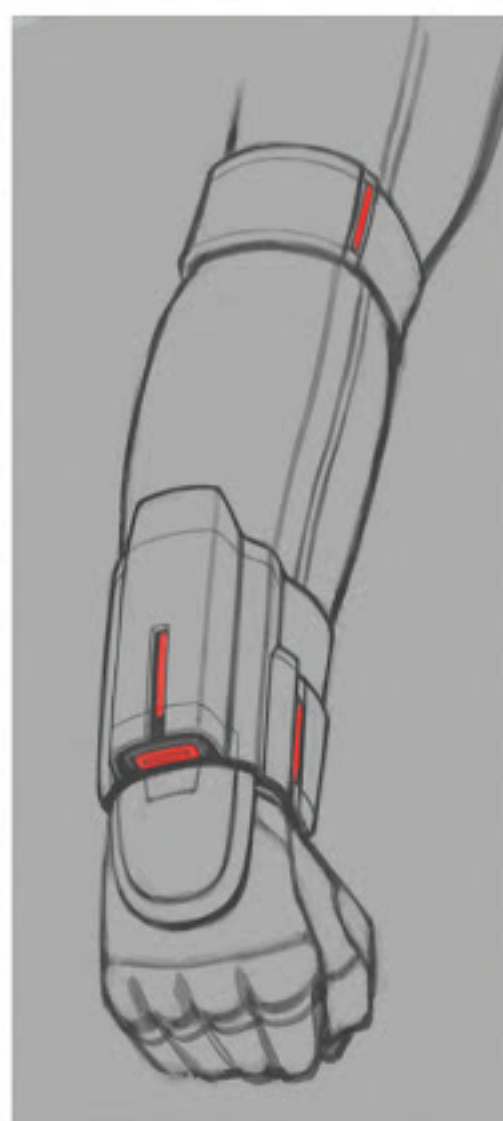
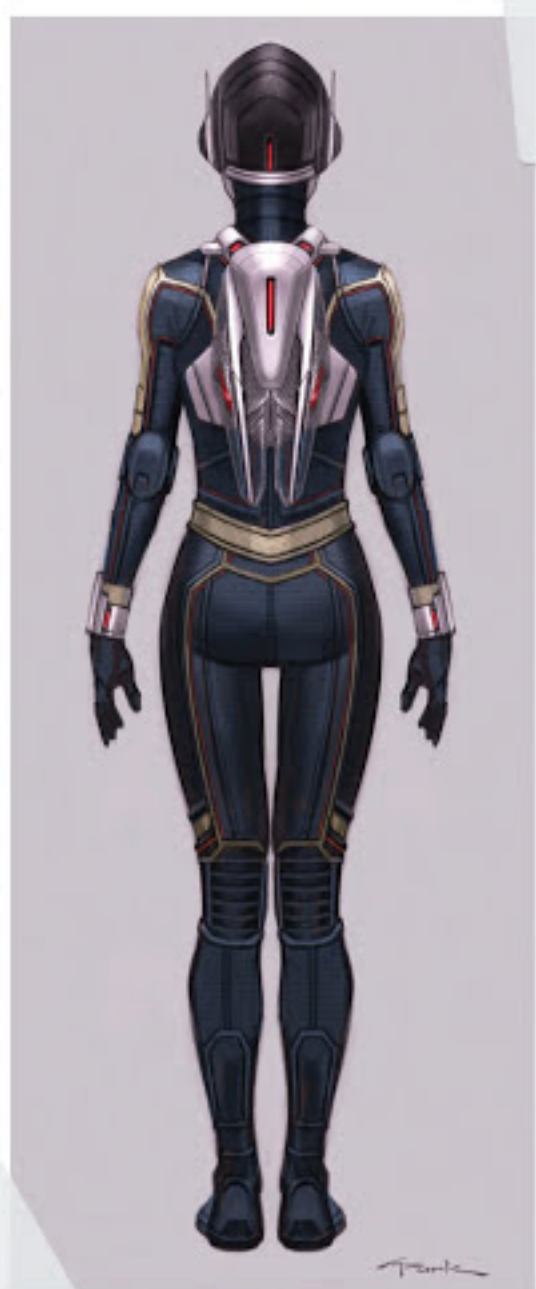
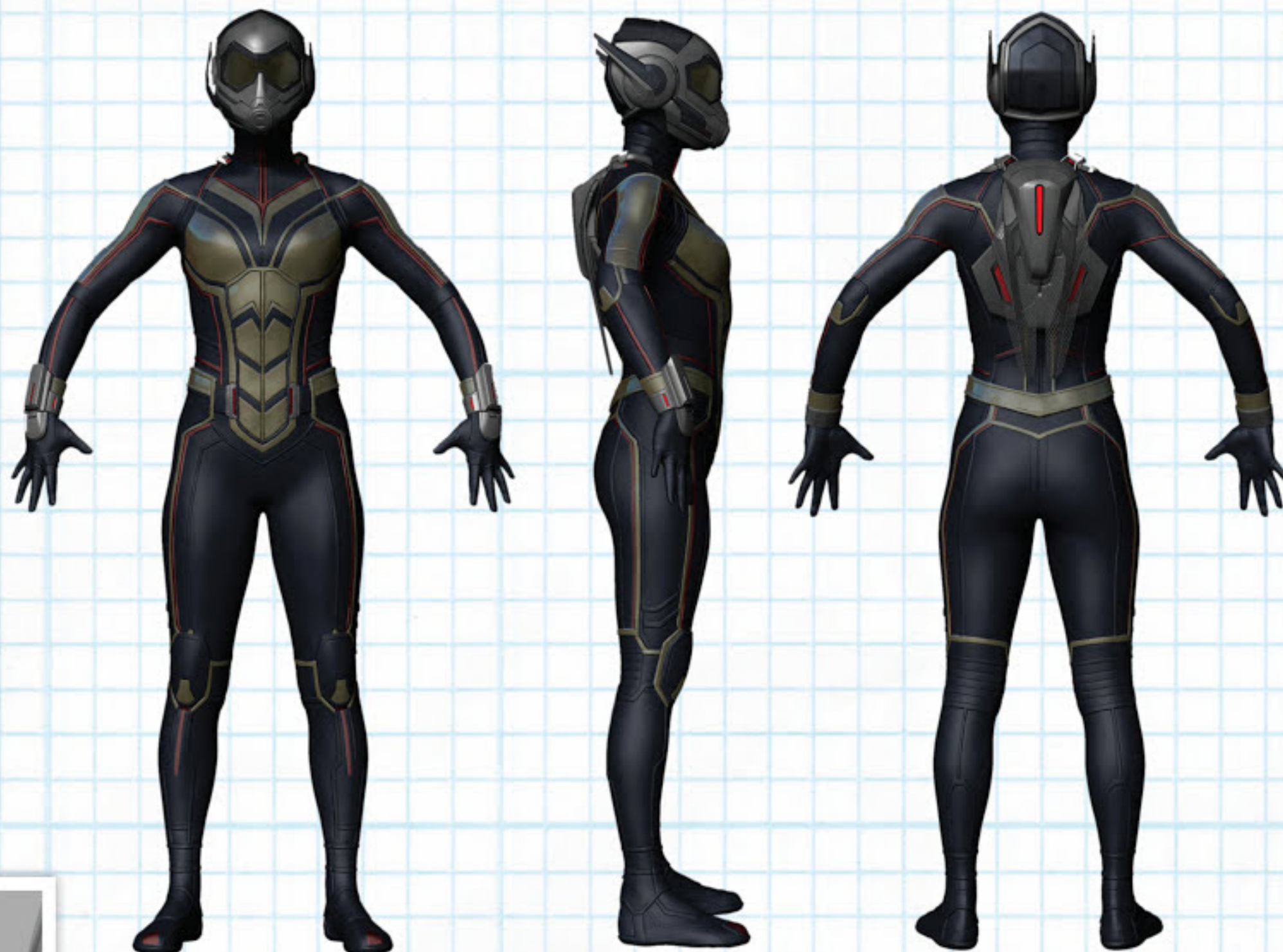
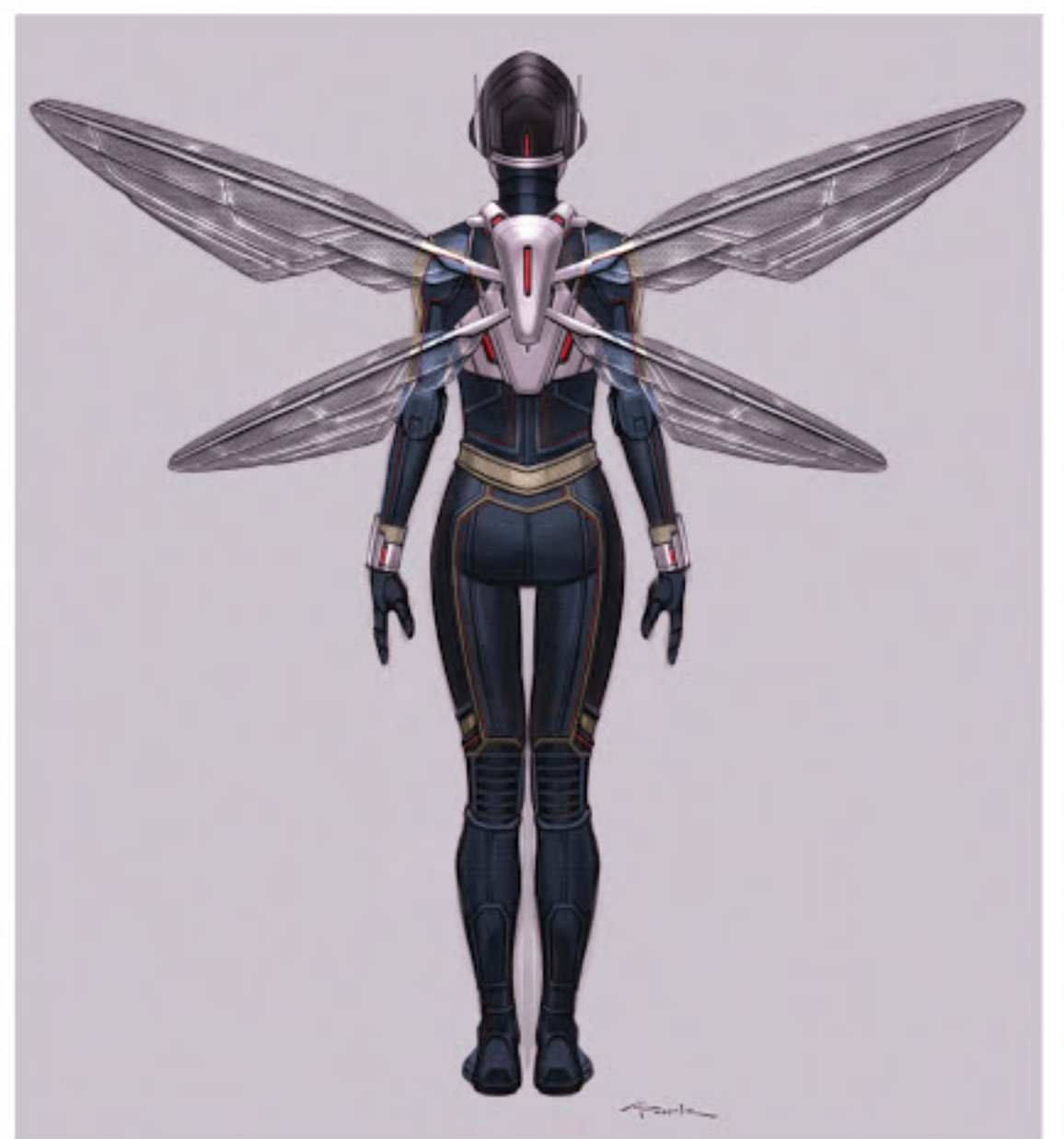
Hope received a weird voice mail from Scott, leading us to believe he may have information that can lead us to Janet. We have to find out what he knows. Hope and I need to get him to my lab, but he's currently under house arrest. Busting him out undetected shouldn't be too much of an issue, though. I'm going to put one of my best ants on the job. The plan is to place Scott's tracker on the ant; when the ant moves around the house, the feds will track the movement and think it's Scott. Those buffoons watching him will never figure it out. — **H.P.**





**HOPE
VAN
DYNE**





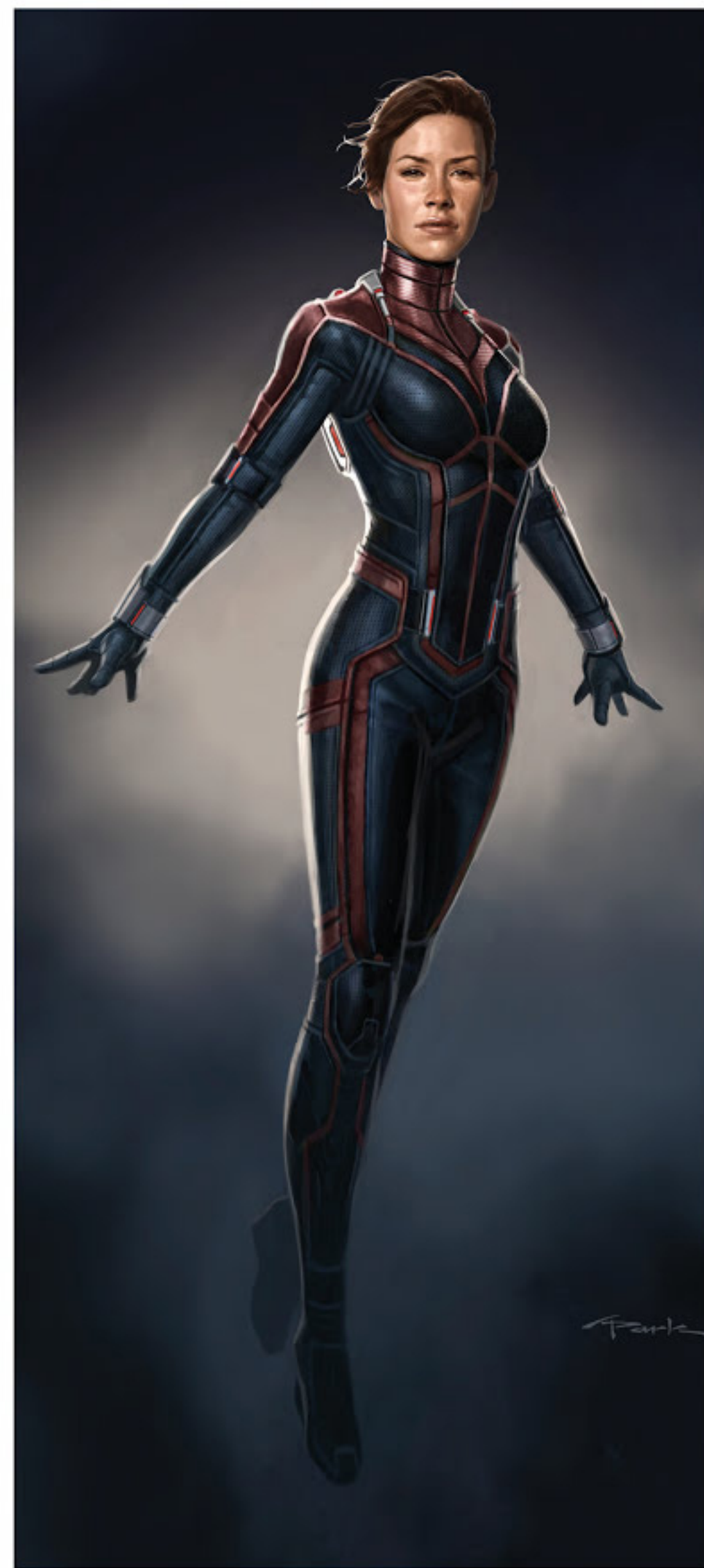
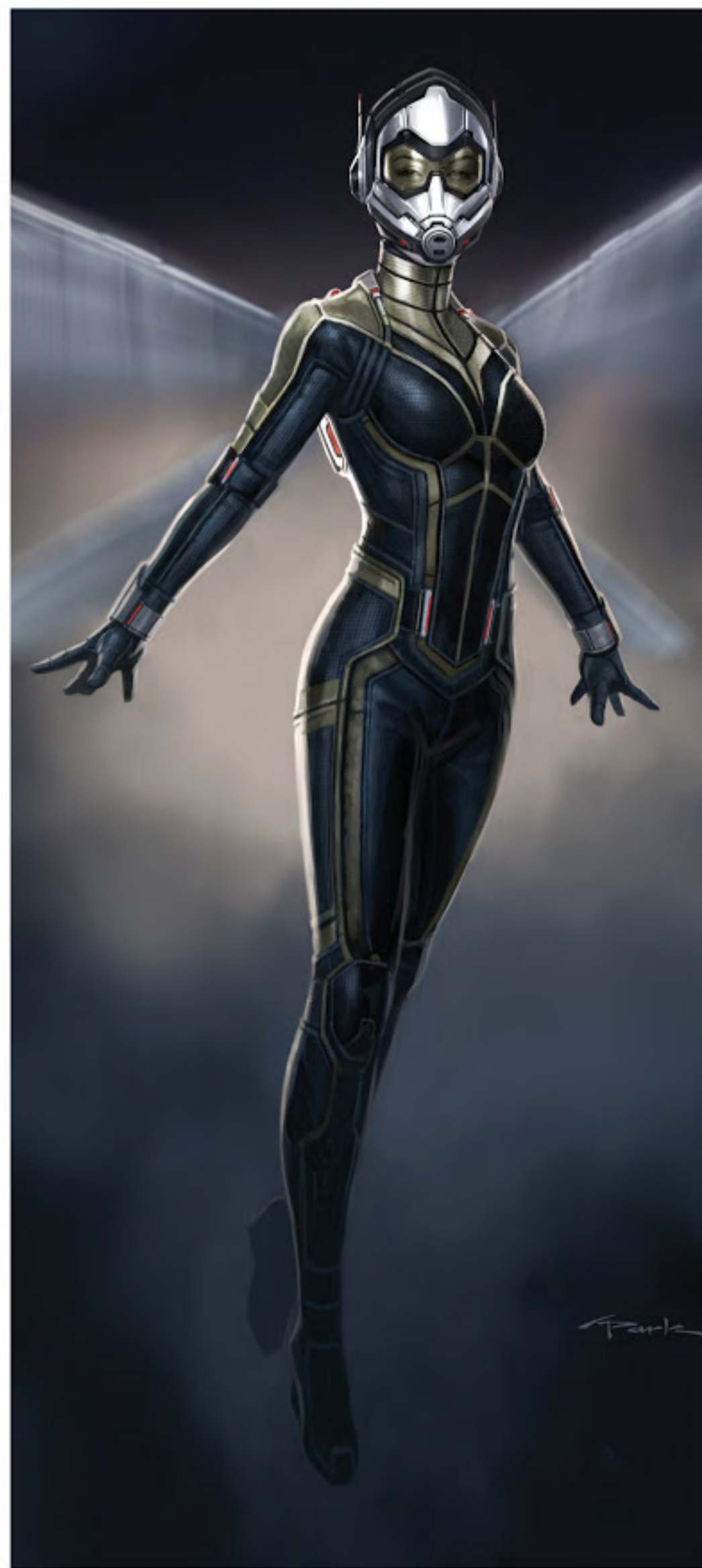
HANK PYM LOG ENTRY:

Hope has been wearing the new Wasp suit we finished together for a while now—and she wears it well. Much like Janet was born to it, so is Hope. Glad she inherited more than just my stubbornness. She's got her mother's right hook, too. There's never been anything Hope couldn't do—but in the Wasp suit, she's unstoppable! — **H.P.**

◀◀ PARK

▲ PARK

▲ TOP RIGHT PARK & HERMAN









"I think it's one of our favorite endings of any of our films when Hank reveals to Hope the prototype of a new Wasp outfit," President of Marvel Studios and Executive Producer Kevin Feige says. "And she says something that she believes, that we believe, and we think the audience believes when it comes to female super heroes: 'It's about damn time.' And for us to dive into that now, that's why the movie is called *Ant-Man and the Wasp*—it's a two-hander between them. You could see in that first film that she was frankly more capable than Scott Lang was at being a super hero, but her father—because of the loss of her mother—emotionally didn't want her to do this. And now having presented her with this suit, we get to see her sort of with the gloves off and becoming a super hero—and frankly a much better one than Scott."

Pym Technologies: Wasp Arsenal Technical Specs



Fig. A.1



Fig. A.2



Fig. A.3

“THE DESIGN OF the Hope Van Dyne Wasp costume was done on the first *Ant-Man* film,” Andy Park says. “Peyton wanted to have an end-credit scene where Hank reveals to Hope a prototype suit he’s secretly been building for her. Originally it was supposed to be Janet’s, but eventually he knew it was for Hope. I wanted to create a distinct look that contrasted but also complemented the Ant-Man design. I loved the yellow, or gold, and blue take she had in the comic books, so I designed her with that in mind all while trying to maintain a believability to the designer in Hank Pym. These suits will never be as sleek as a Stark suit. They’re more like classic hot rods rather than a Ferrari.

“While designing the Wasp costume I knew she had to have her signature wasp stings and her wings. The challenge was figuring

out what those could look like. I always saw her as having very flexible wings that only allowed her to fly while in her diminutive state. They’re like thin, fibrous, synthetic sheets held together by thin, flexible metal arms that rotate at a rapid speed, all motored by her backpack. Her wrist gauntlets are able to blast stings of variable strength. They’re not necessarily kill blasts, but they also don’t merely tickle, either. And lastly, her helmet was a challenge. I wanted to create a helmet that was in the language of the Ant-Man aesthetic, but I wanted it to be sleeker and more feminine. Her whole look as the Wasp is a bit more sophisticated with its gestural lines that imply speed and grace—and aggression—in contrast to Ant-Man’s more squared and angular forms that reflect both his more grounded tactics and personality.”

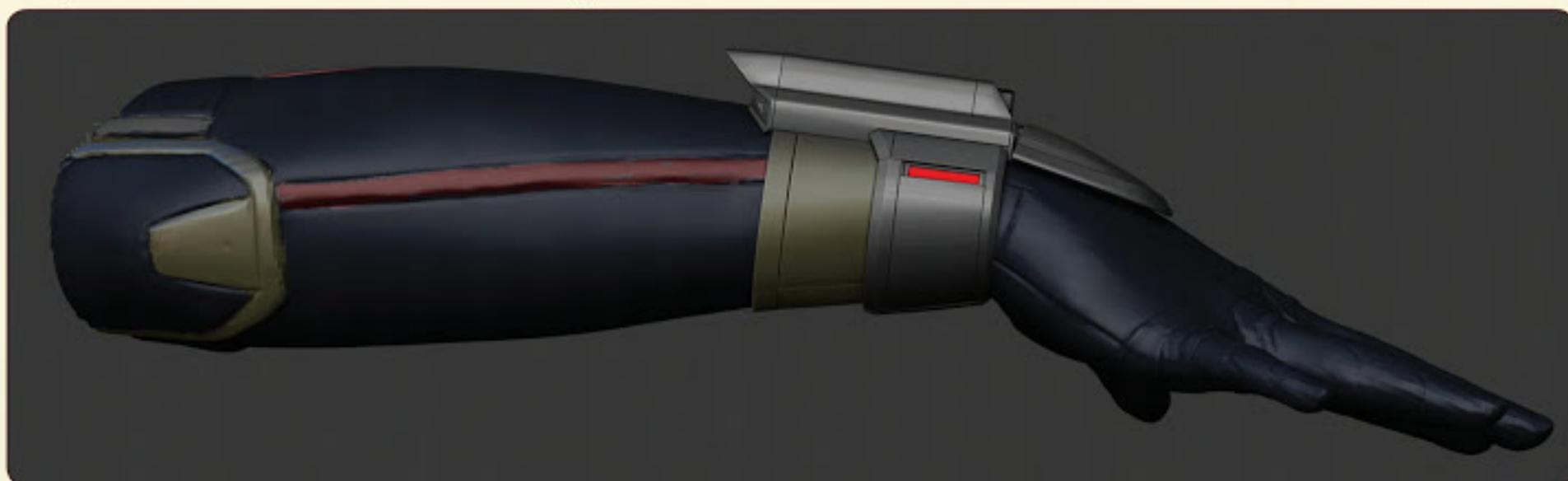


Fig. A.4



Fig. A.5

ROSS ▲

PARK & ROSS ▲



Fig. B.1



Fig. B.2



Fig. B.3



Fig. B.4

PARK ▲



Fig. C.1



Fig. C.2



Fig. C.3



Fig. C.4





JACKSON SEE 16

SIZE







HANK PYM LOG ENTRY:

Another day working in the new Pym Tech. With the ants' help, Hope and I are making giant strides toward the completion of our build. The Quantum Tunnel is the vital piece of equipment we need to bring her mother—my Janet—back into our world. Complicating matters are the federal agents and hooligans who seem to be following our every move. We've had to be extra diligent about protecting our work. We can't risk this tech falling into anyone else's hands. — **H.P.**

Central to the film's story is the new mobile Pym Technologies lab, which allows Dr. Hank Pym and Hope Van Dyne to continue their research while on the run. "I have this lab in San Francisco," says actor Michael Douglas, who plays Hank, "which from the outside sort of looks like a five- or six-story factory building—kind of nondescript—but inside,

I'm doing tremendous research exploring the possibility of entering the Quantum Realm, which is where I think I lost my wife 30 years ago. I'm still quite successful as Pym Technologies, although I don't show my wealth too much on the outside...but inside! And of course, we still have the ability of getting small, and getting small means a lot of things."



RAMA ▶▶

BURIG ▲



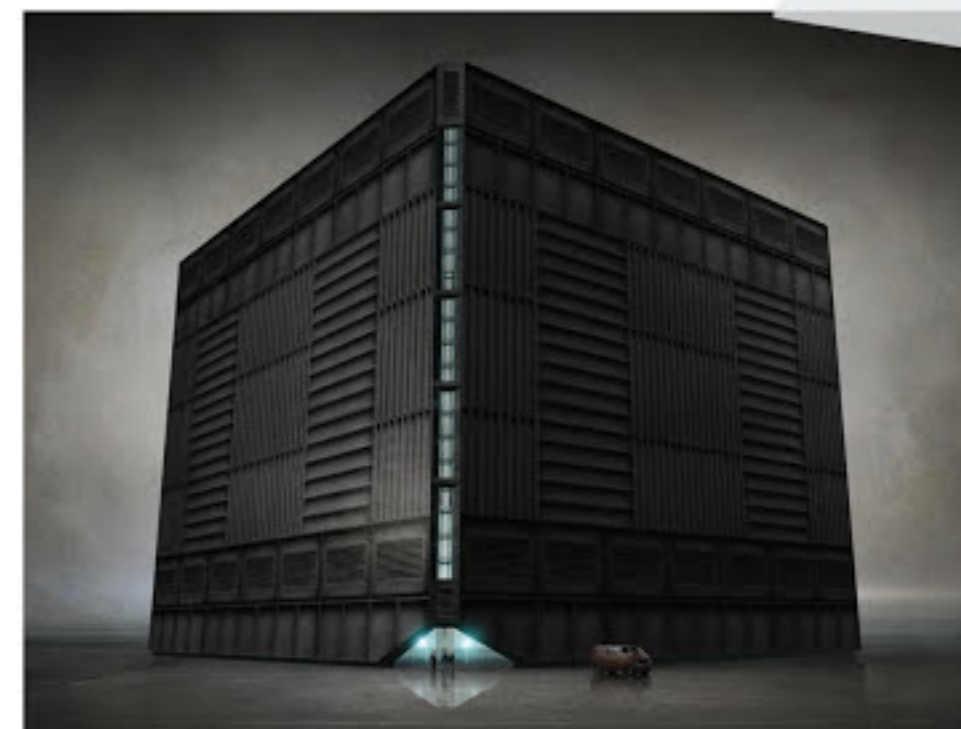
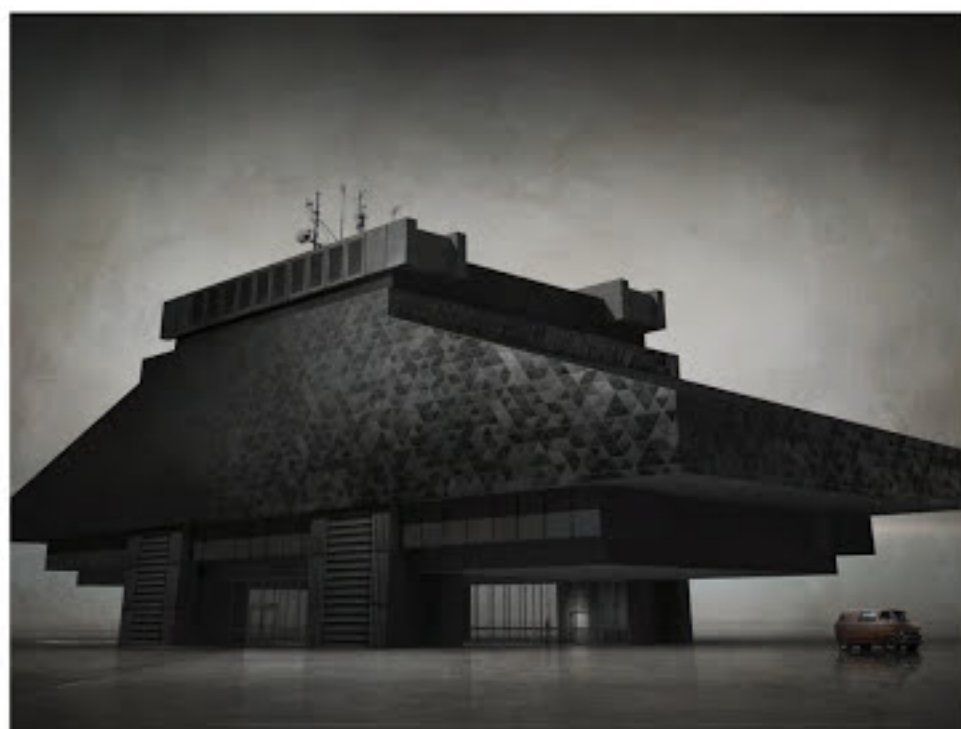
PYM TECHNOLOGIES

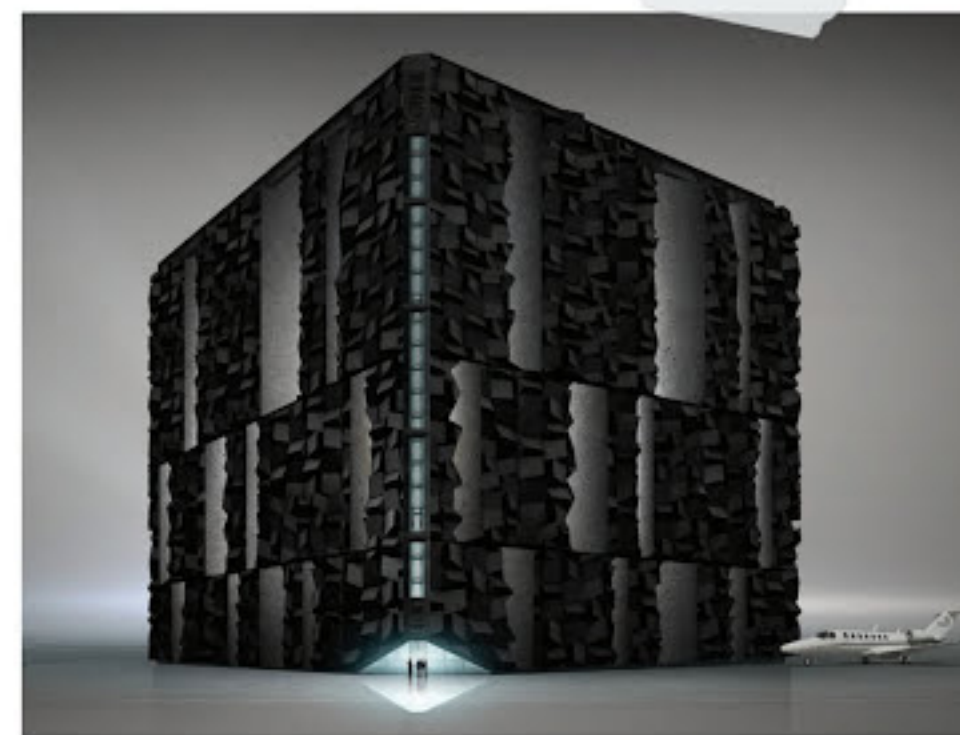
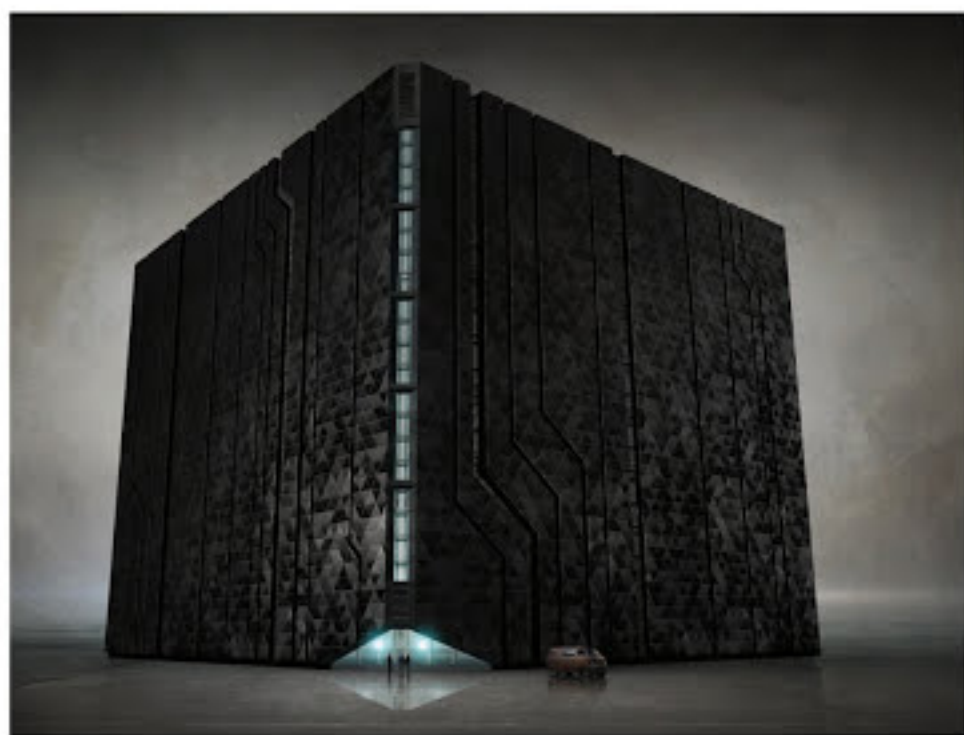
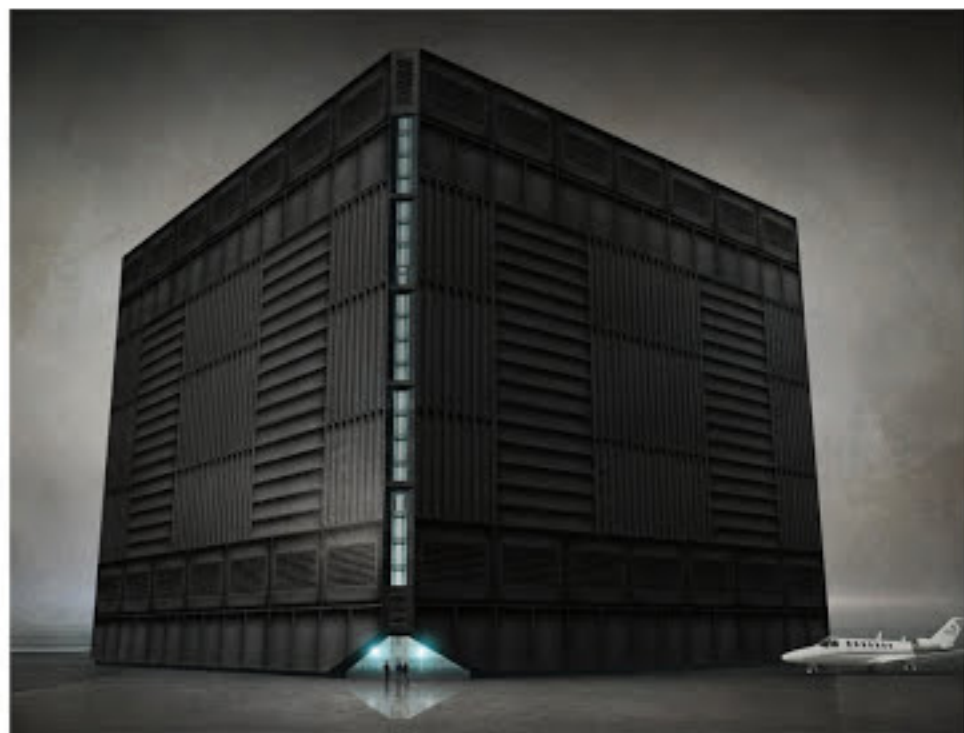


PORTABLE LAB

To stay one step ahead of the law in the wake of *Captain America: Civil War* while simultaneously working on the tech needed to find Janet, Hope and Hank have created a new portable operations hub. "For the two years between *Ant-Man* and *Ant-Man and the Wasp*, Hope and Hank have been on the run from the FBI, who want our tech," says actor Evangeline Lilly, who plays Hope Van Dyne. "They want us to register it [because of the Sokovia Accords]. And so we've been running because, of course, Hank Pym won't have that. As a result, we've been working in isolation with one another in this lab that we built—that we can shrink and grow at a moment's notice so that if we need to, we can run and take our lab with us."





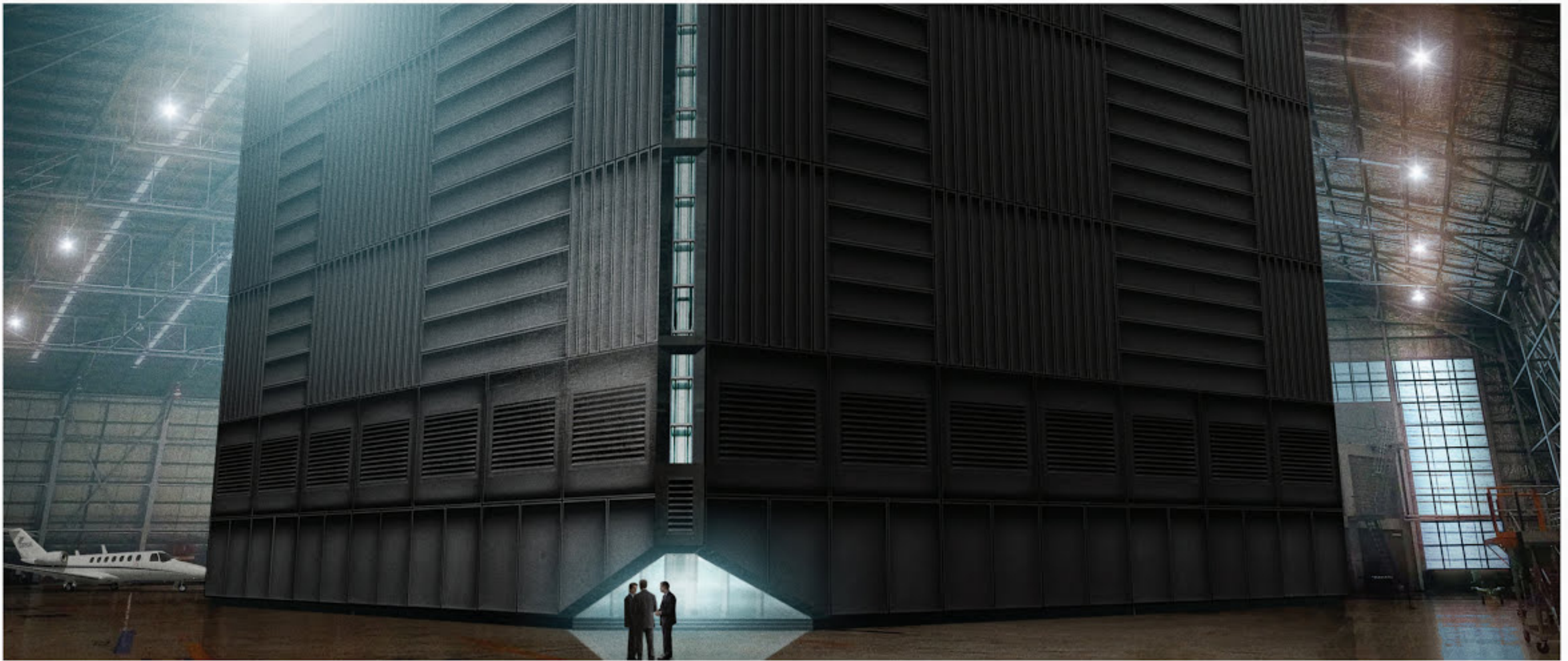
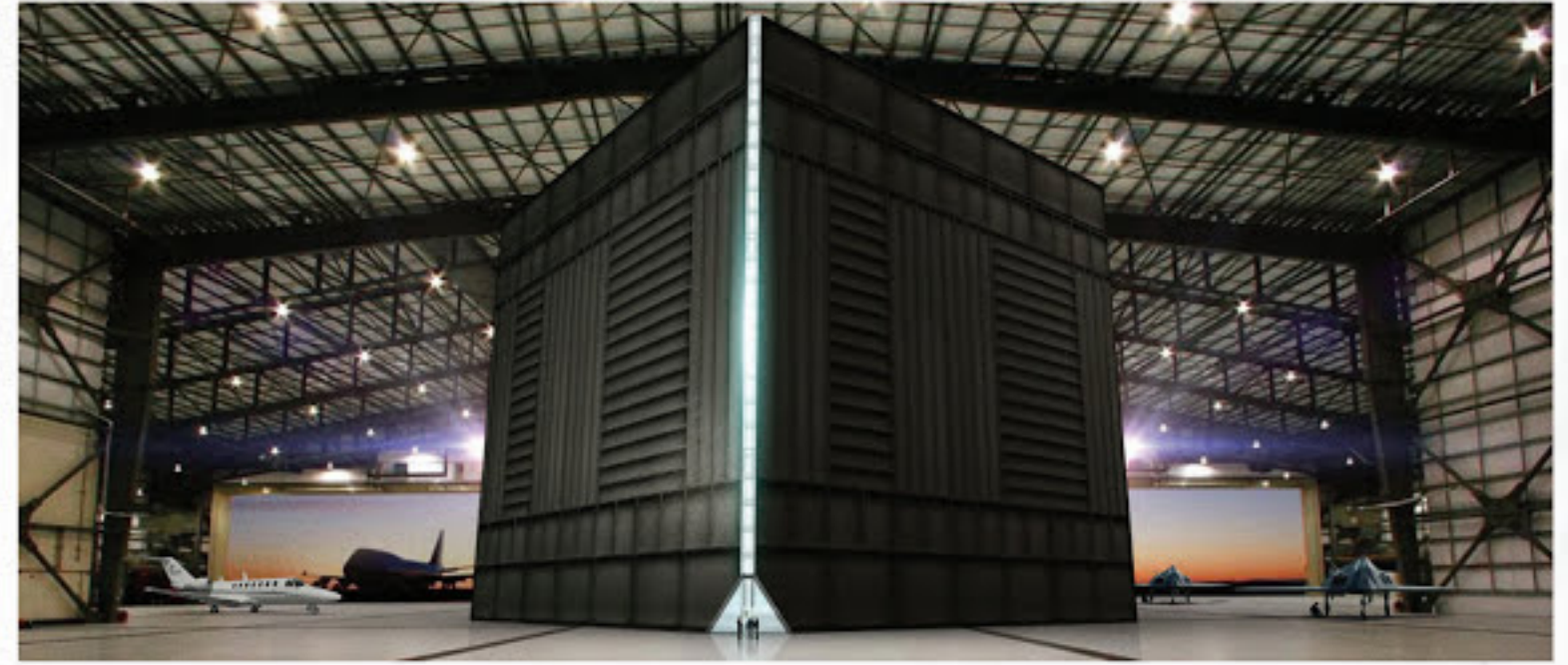
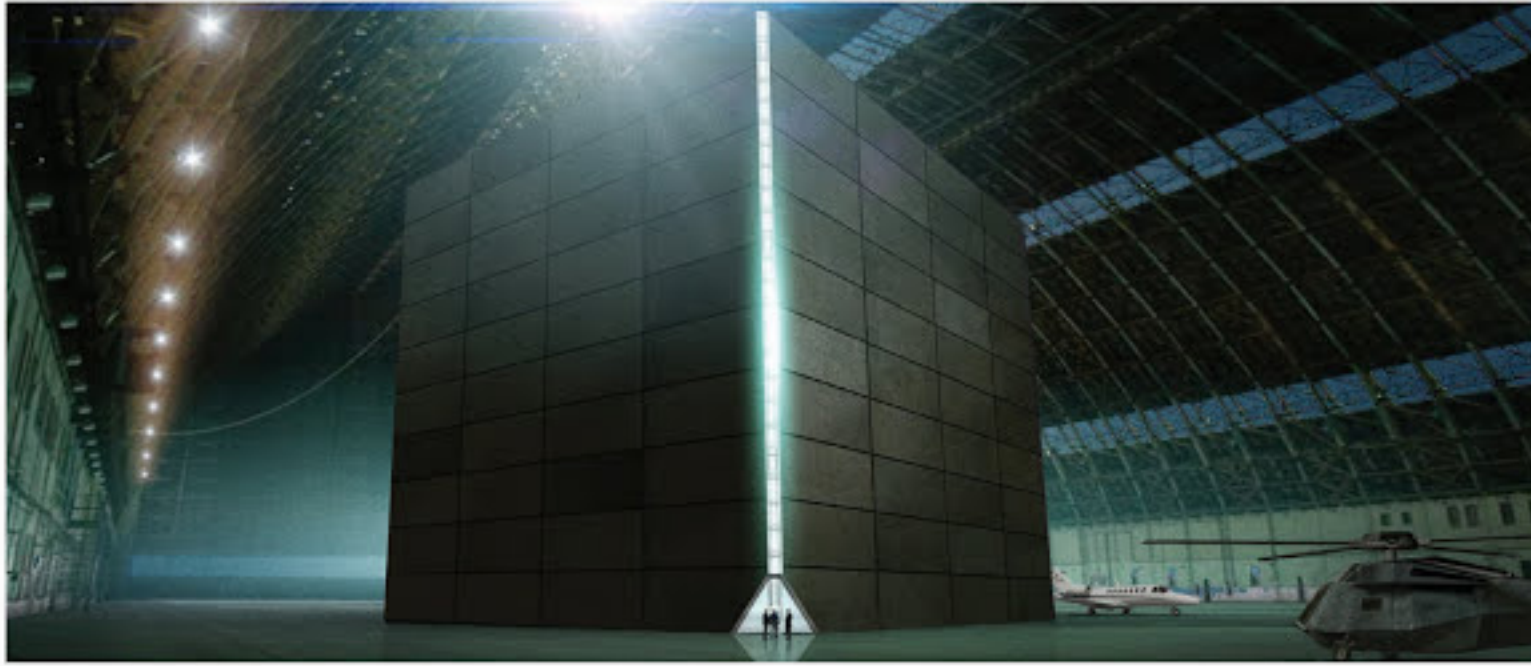




"Upping the ante for the shrinking and growing was a huge component of how we approached this movie," Producer Stephen Broussard says. "Shrinking and growing as a visual concept—as a sci-fi idea, as a super hero idea—is so cool, and there are so many different things you can do with it. They did some amazing things with it in the first movie, but I think we all agree we only just scratched the surface there. There's so much more to go. So much of that movie was about learning that this technology exists, learning how to use it, learning what it means. When this movie starts, everybody knows that, so we basically expanded what can be done with it and the fun ways it can be used in this film. One of the evolutionary ideas of this film is that they've exported shrinking and growing beyond just suits and people. Suddenly cars can shrink and entire buildings can shrink."







"The lab is actually the MacGuffin of the movie, to use an old Hitchcock term, and everybody's after it," Producer Charles Newirth explains. "It is the lifeline to finding Janet, who has been lost for over 30 years, and Hank has spent the last 30 years trying to rescue her. This is his last hope to try to find her and reunite his family, so it's a very big theme. He needs the lab. And then there are other

people—not-so-good people—who are going after it, who have desires for it for very different reasons, some of which are survival and some are which are greed. So there are a number of different people and forces who want this lab. But ultimately, we're going to be rooting for Hank to be able to get in there and hopefully rescue Janet from her 30-year journey in the Quantum Realm."

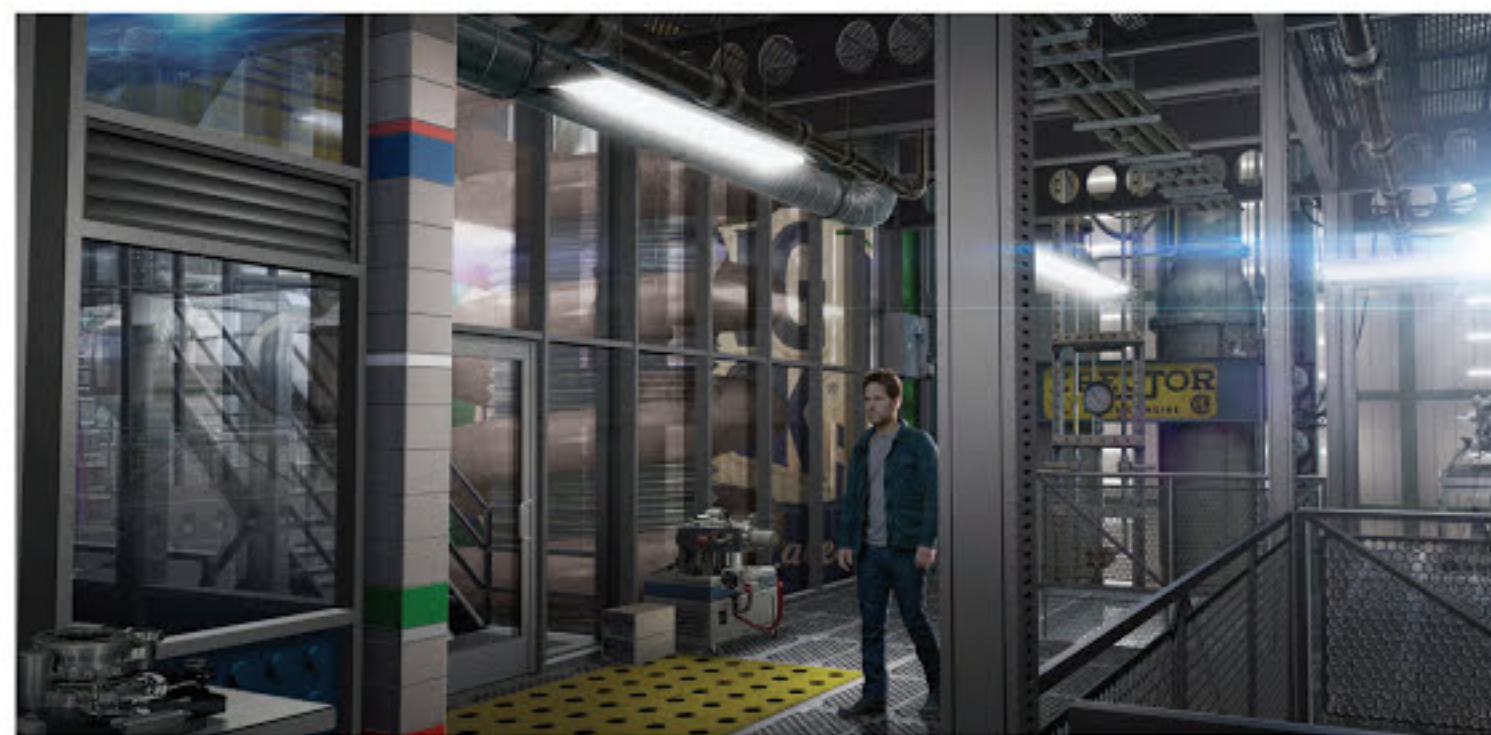
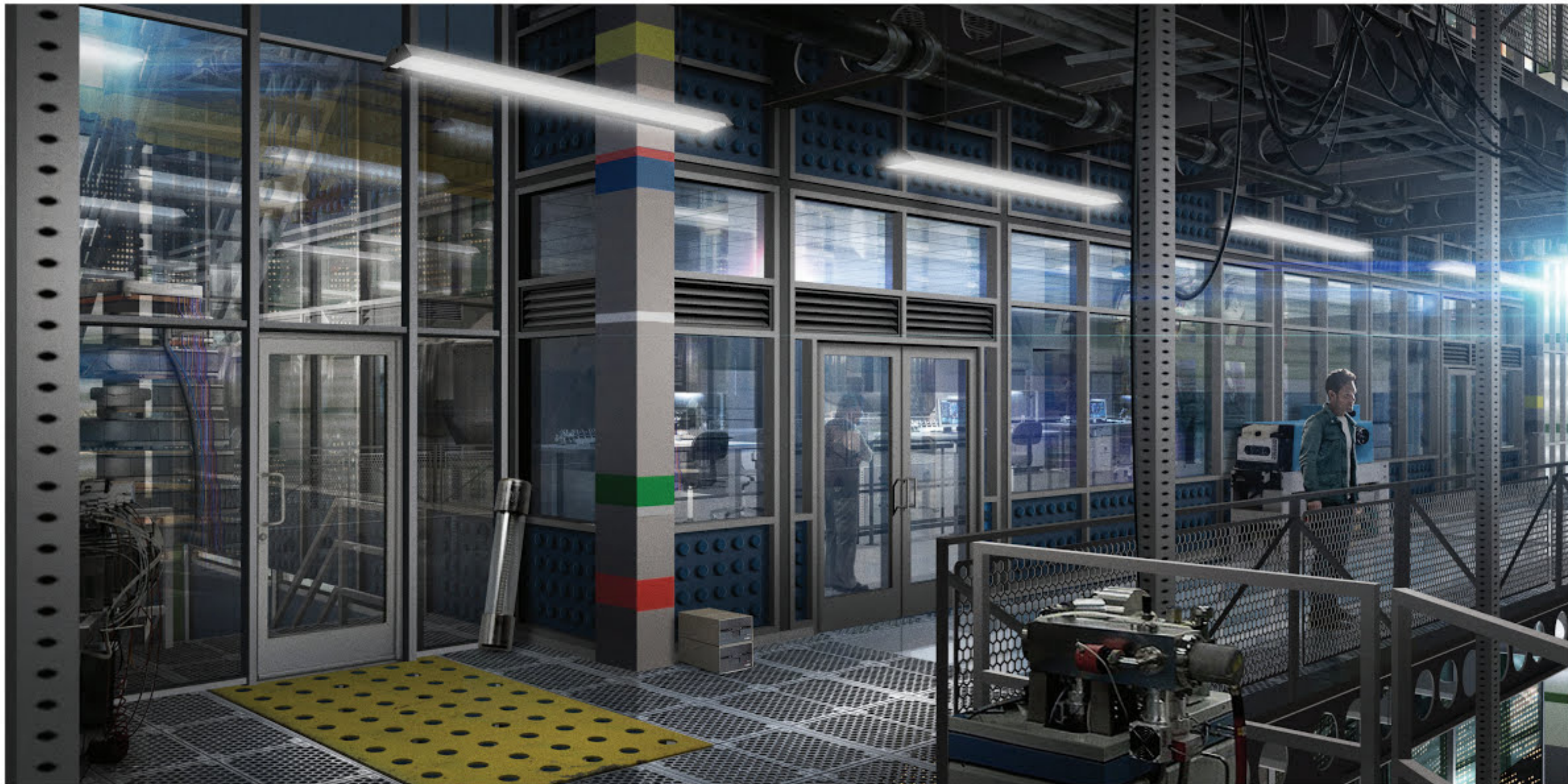


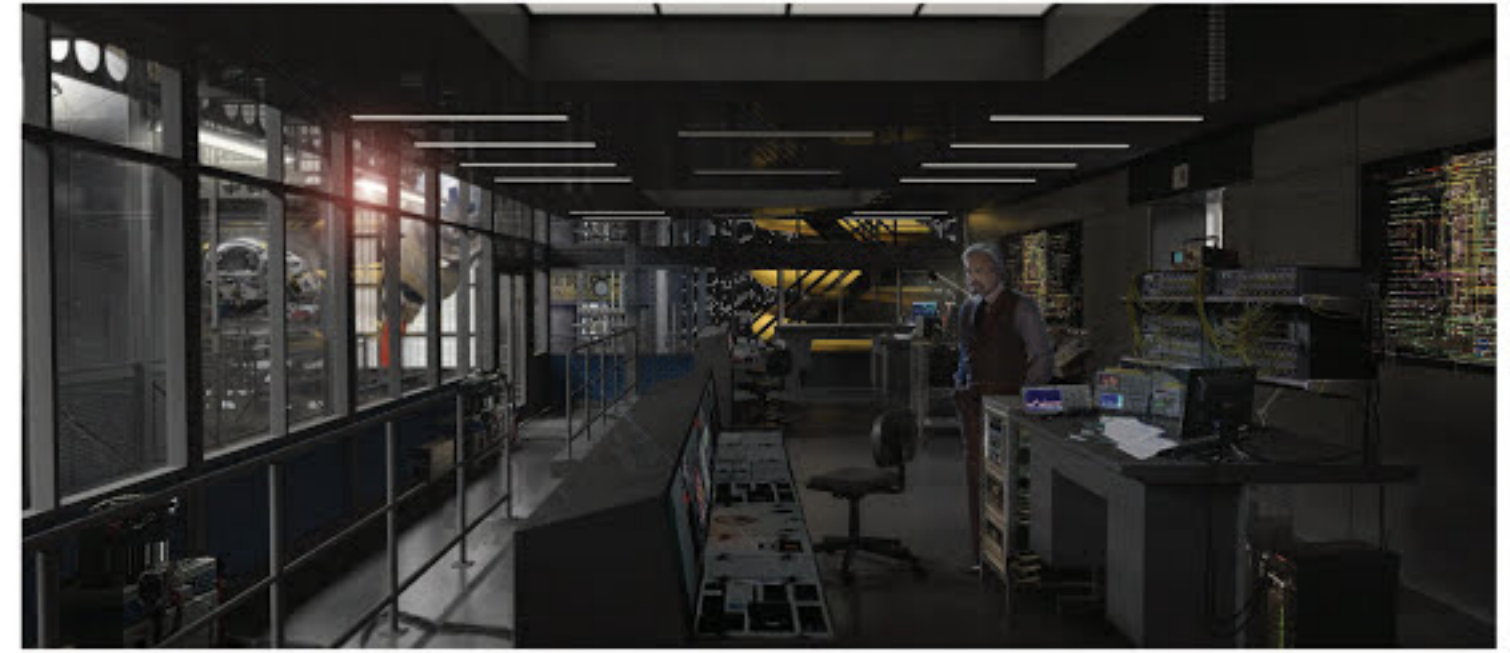
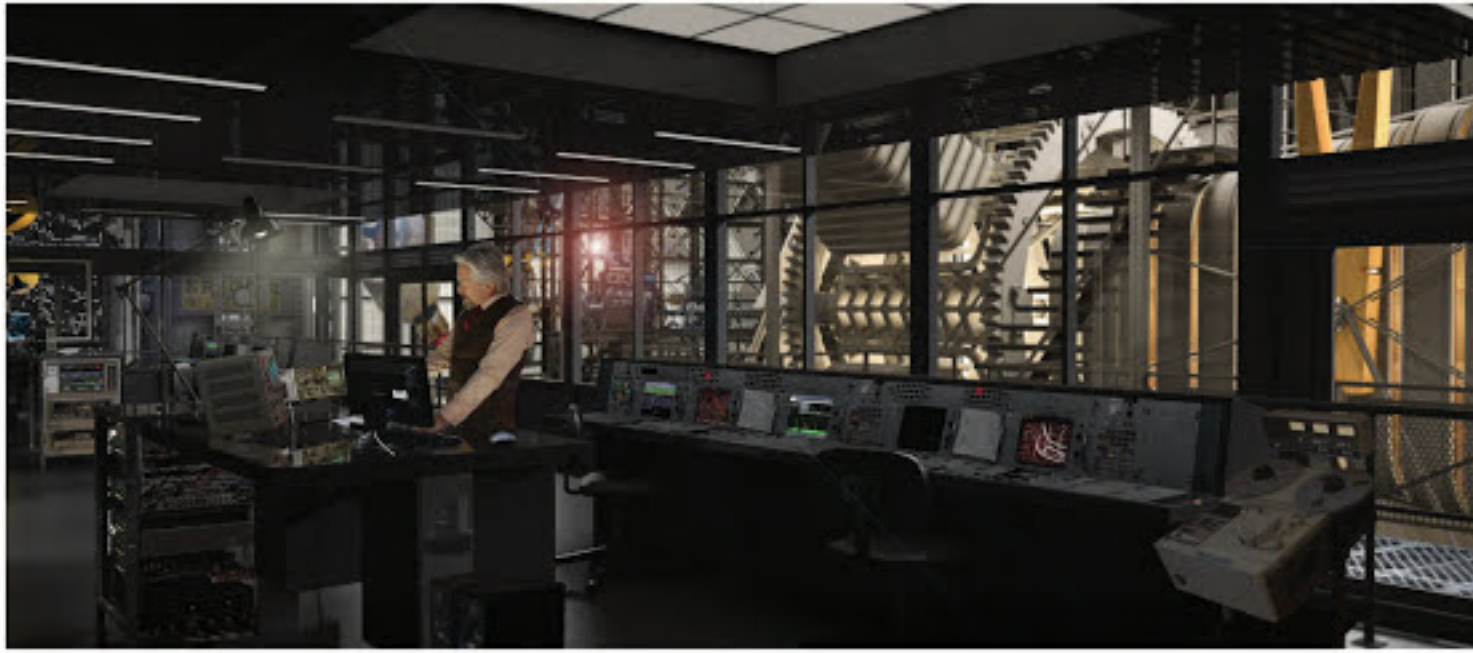
HANK PYM LOG ENTRY:

Every day, it seems to be getting harder and harder to hide the lab. I know we should be laying low, but I can't delay my work. Every moment counts. Janet has been down in the Quantum Realm long enough. It's time to bring her home. — **H.P.**





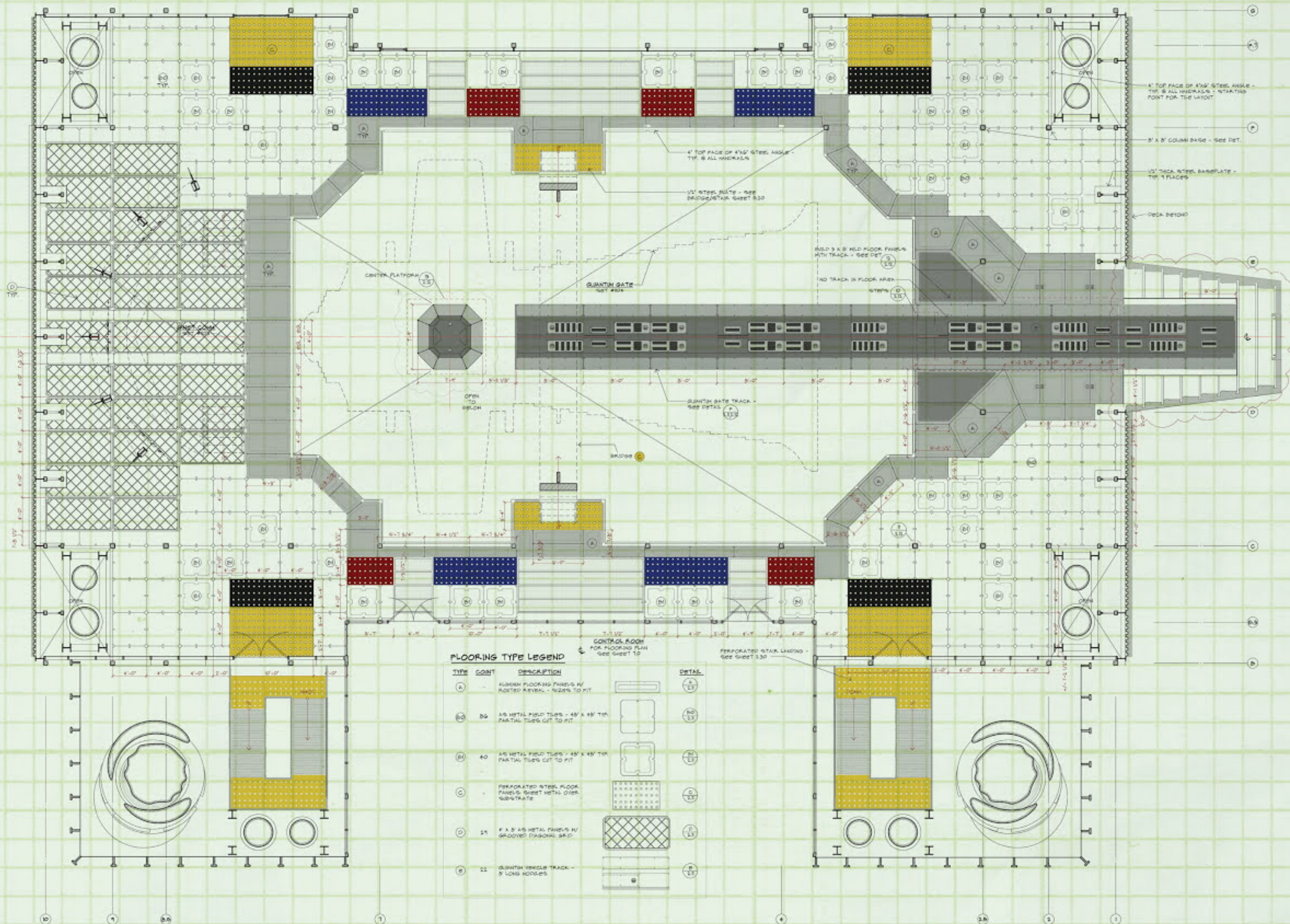


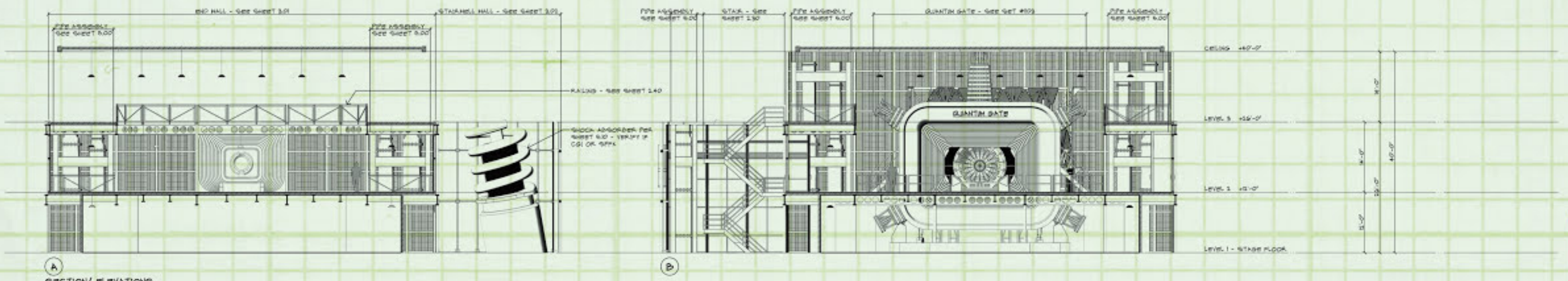


The interior of Hank's lab is even more impressive than the exterior, due mainly to its use of innovative building materials. "In Hank Pym's lab, once you go through the dusty lobby, up in this dusty elevator, and open the door into this lab, we want the audience to

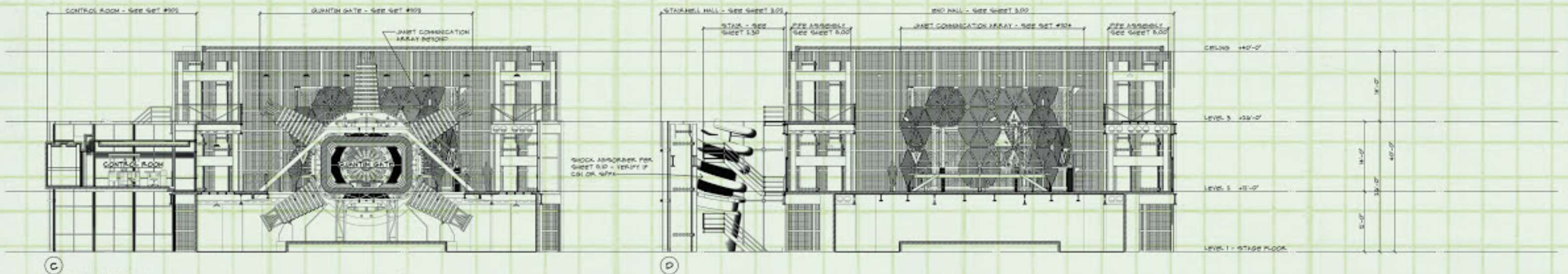
feel disoriented in scale," Frankel says. "Everywhere you look in the lab, there's an oversized prop: a huge spring, Erector Set pieces, oversized volume knobs, big paper clips and clothespins, huge batteries. Basically we want the audience to go, 'Wait a second,

did I shrink? What size am I?' And there are several shots in here that are disorienting in terms of scale, and that was the purpose and the fun of this specific environment."

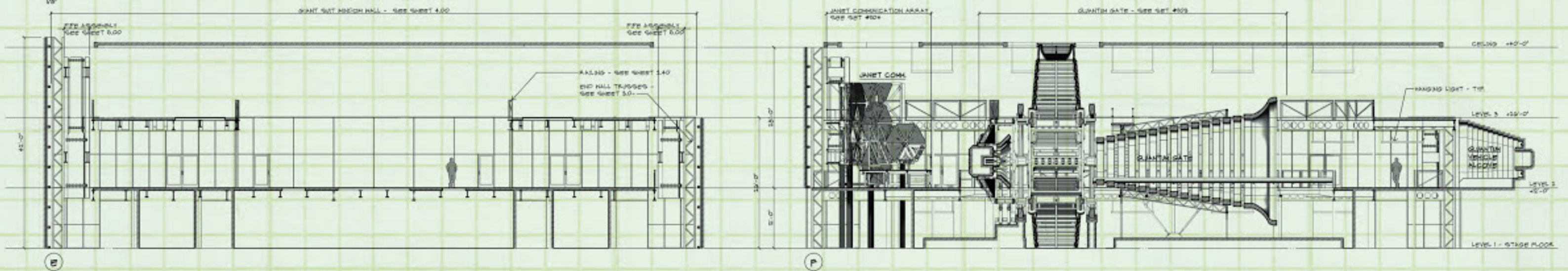




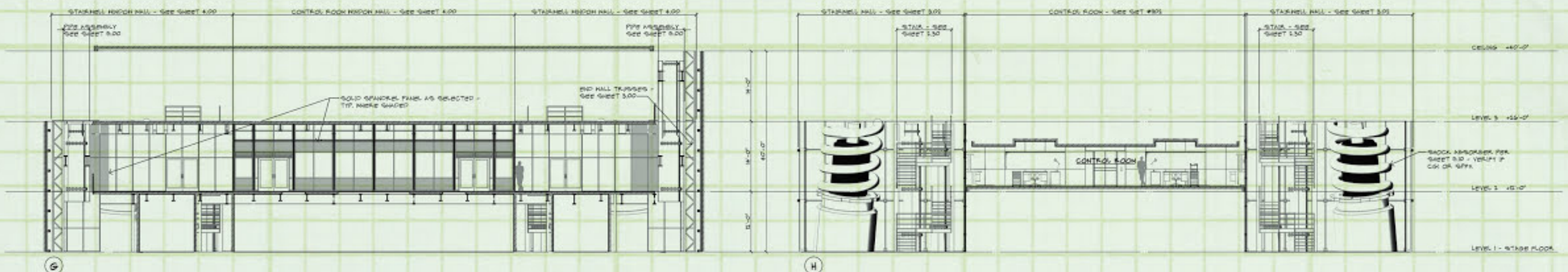
A
SECTION/ ELEVATIONS
VP



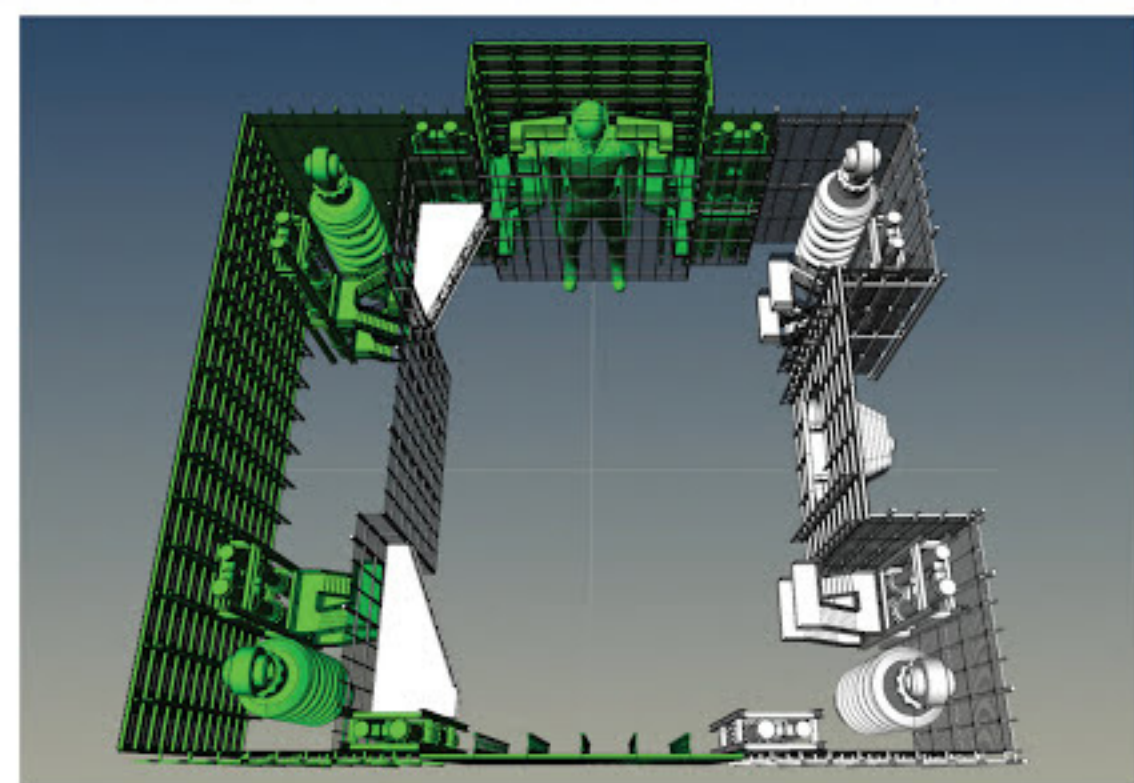
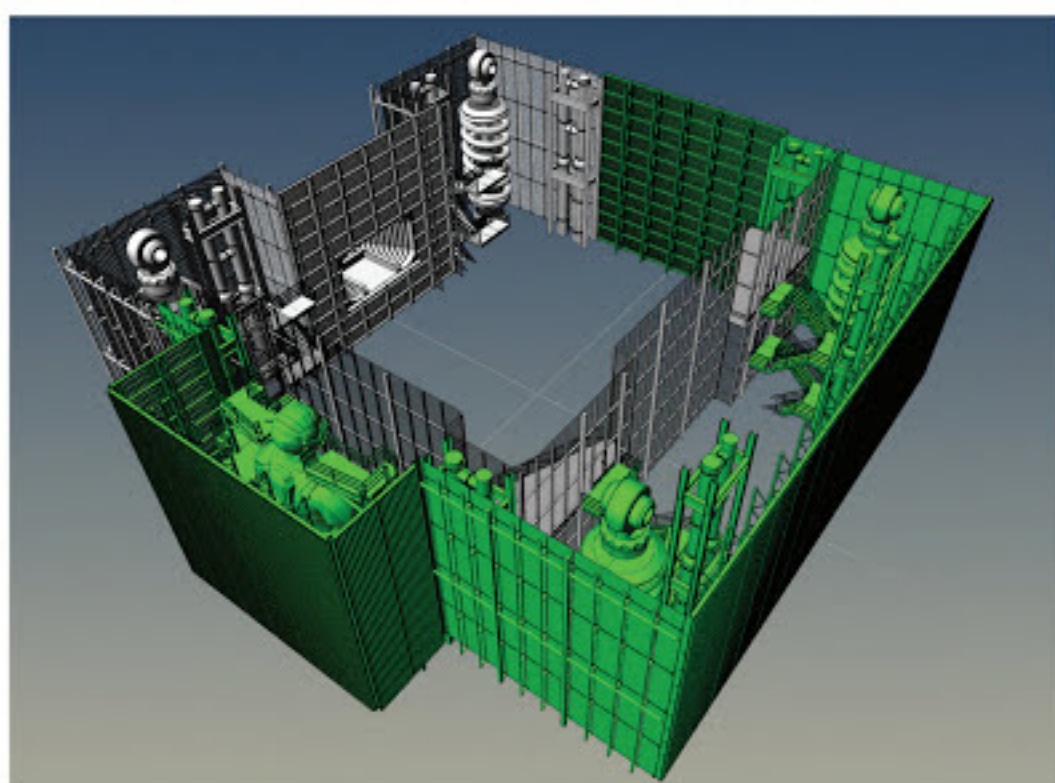
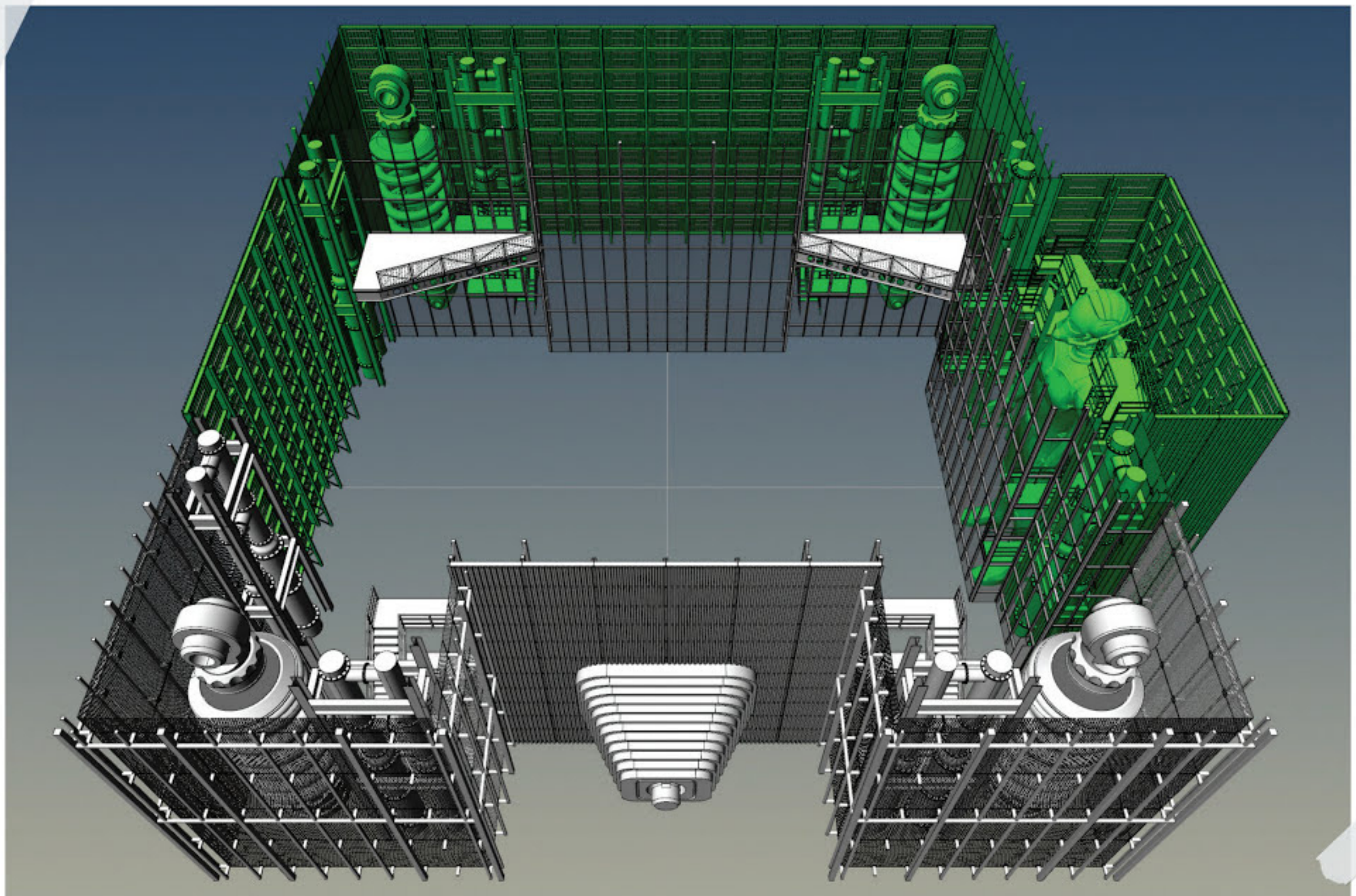
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SECTION/ ELEVATIONS
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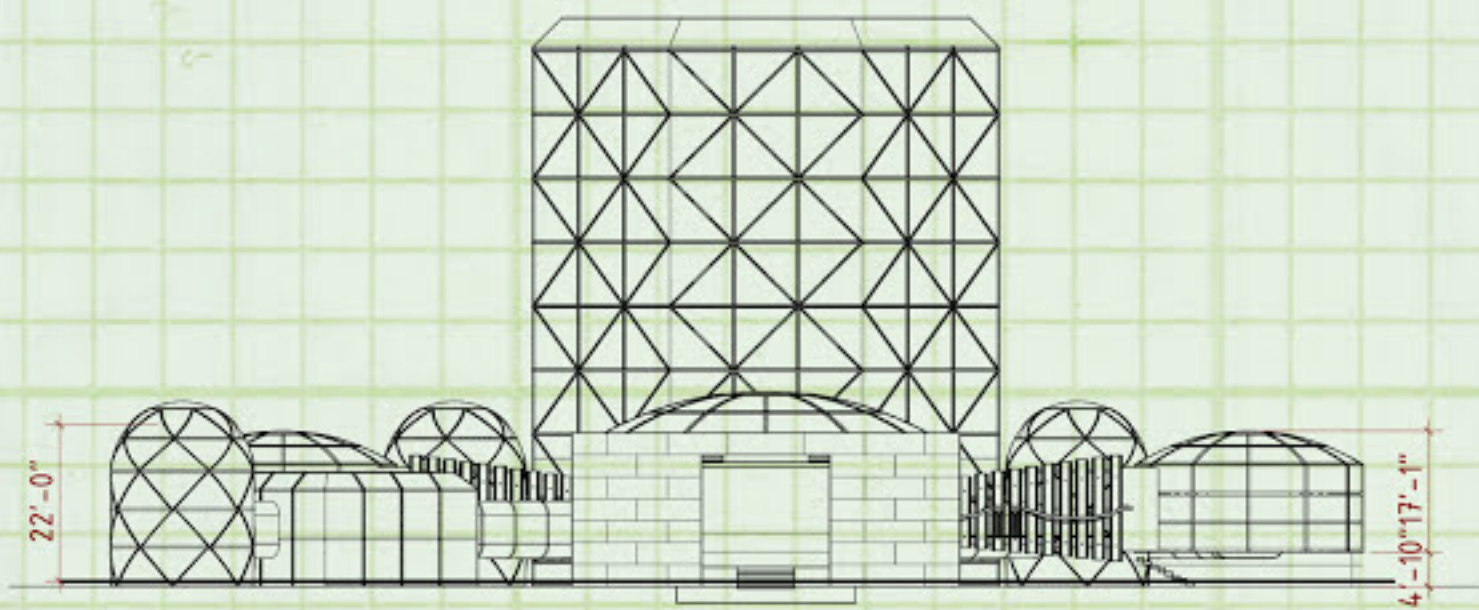


C
SECTION/ ELEVATIONS
VP

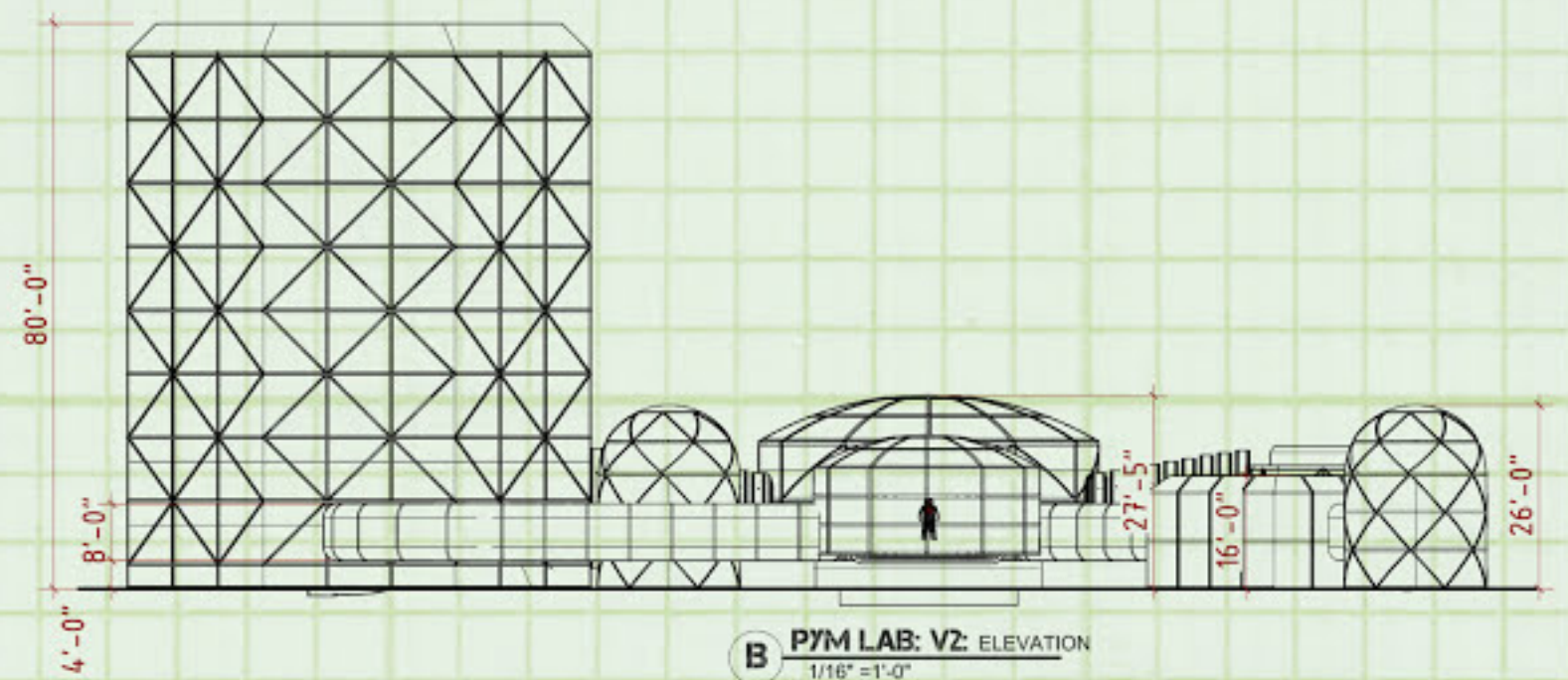


D
SECTION/ ELEVATIONS
VP

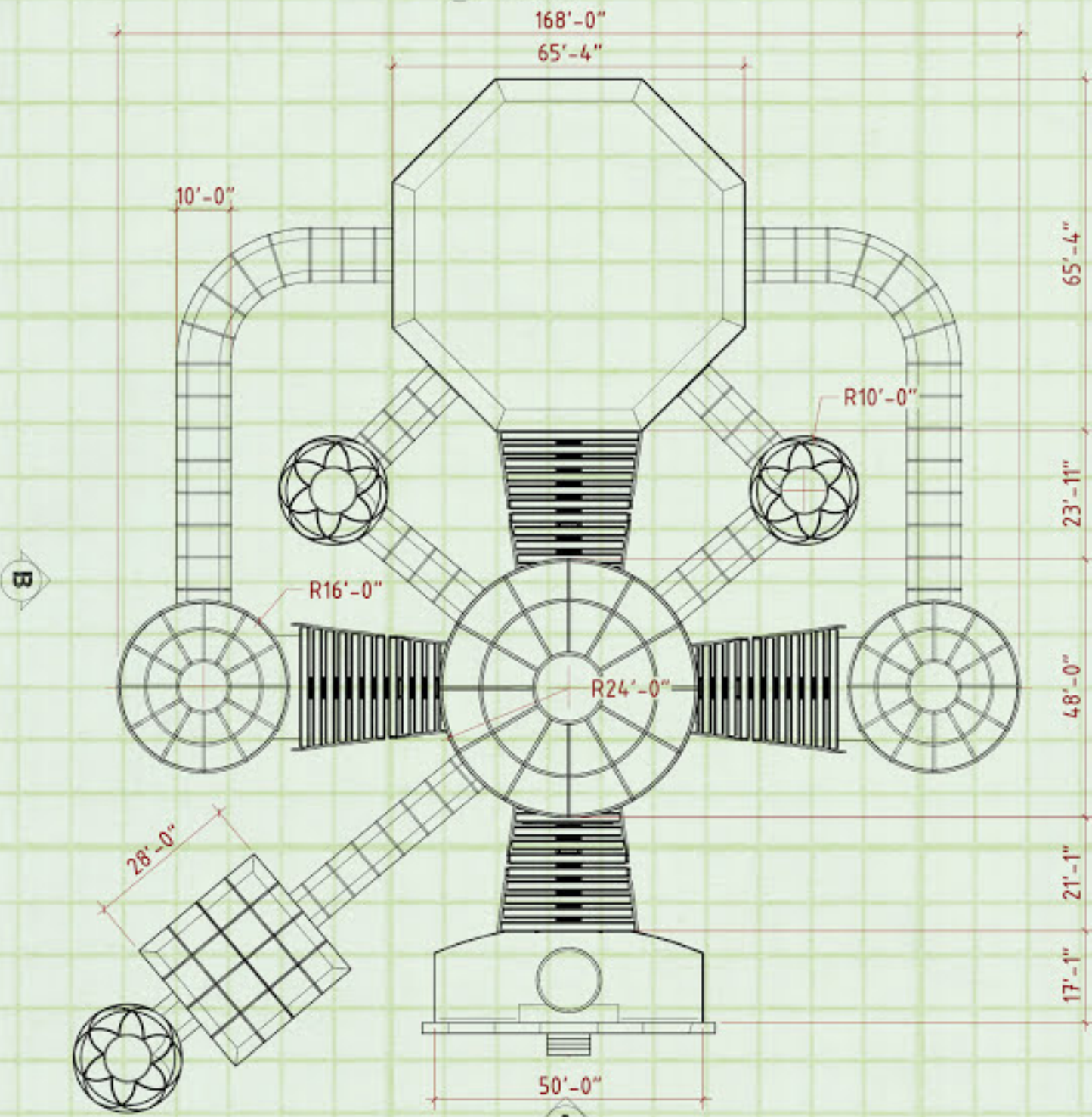




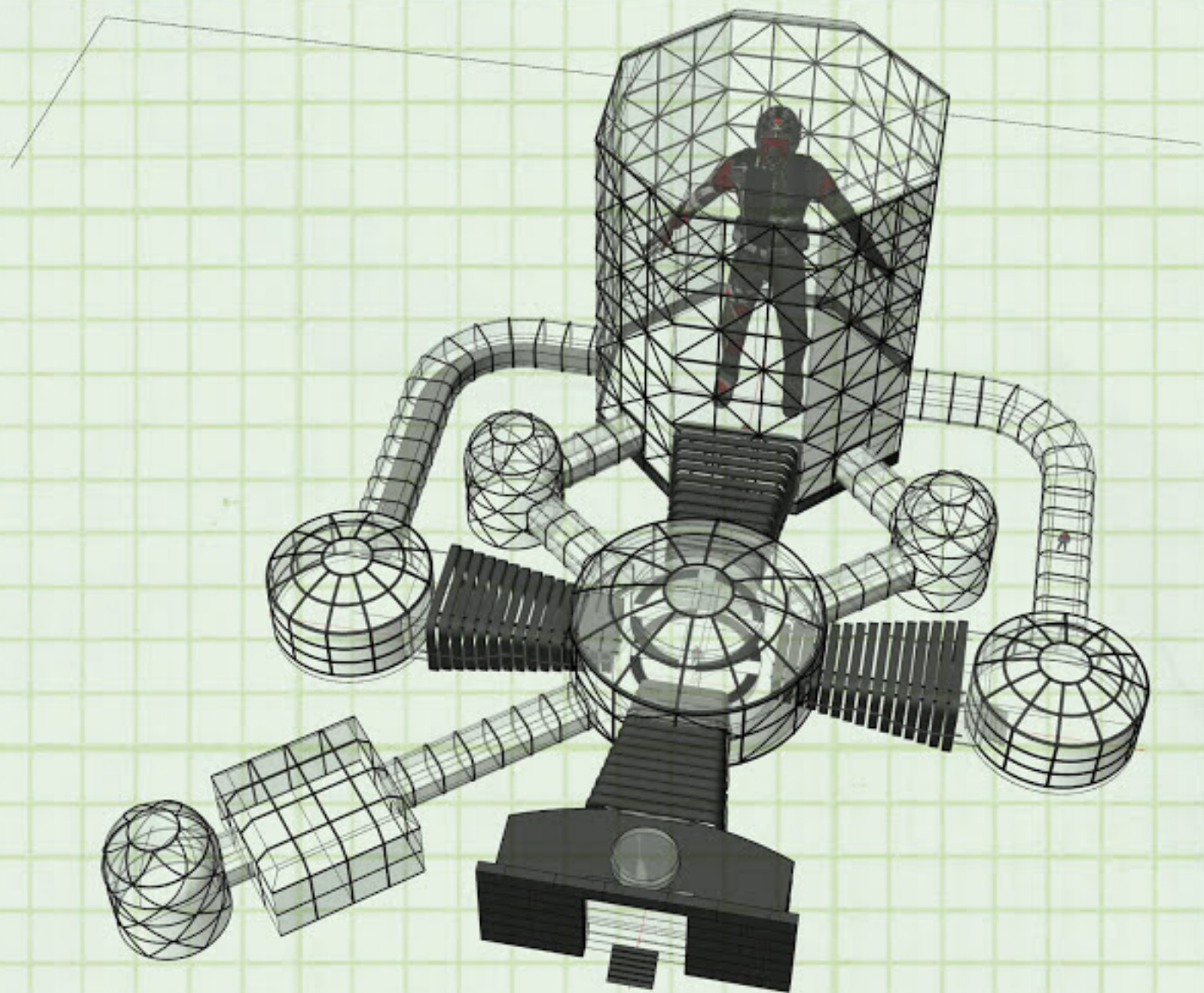
A PYM LAB: V2: ELEVATION
1/16" = 1'-0"



B PYM LAB: V2: ELEVATION
1/16" = 1'-0"



1 PYM LAB: V4: PLAN
1/16" = 1'-0"





CHUNG ▲ SIZE ►



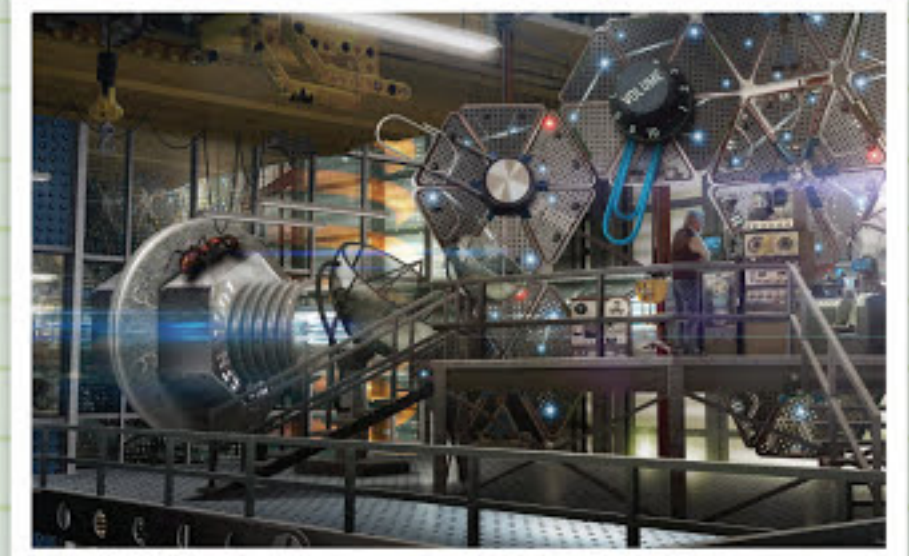


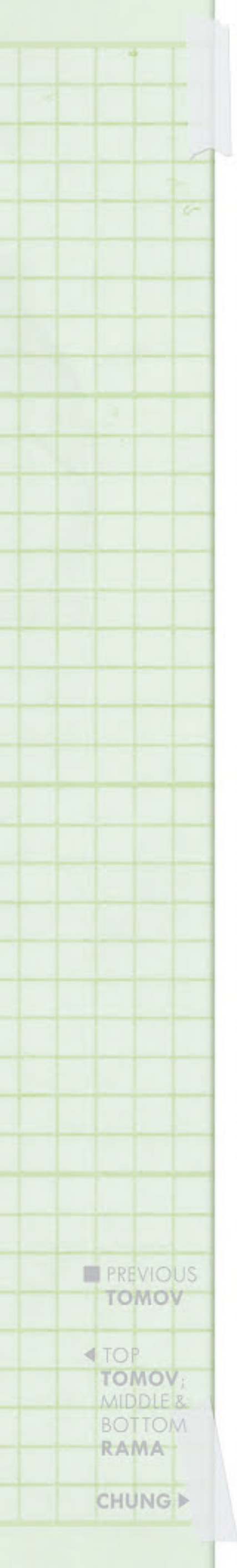




QUANTUM ARRAY

"The Hank Pym lab set on *Ant-Man and the Wasp* took everybody on the movie to participate in it to make it a success," Production Designer Shepherd Frankel says. "Not only did our construction team and our set dressing team work hand in hand, but Dan Sudick and our special effects team printed out thousands and thousands of pieces to help make this environment a visual success. You felt like each piece was put together and clamped on and attached by virtue of Hank Pym and his army of ants. Everywhere you walk you feel a very tactile sensibility."

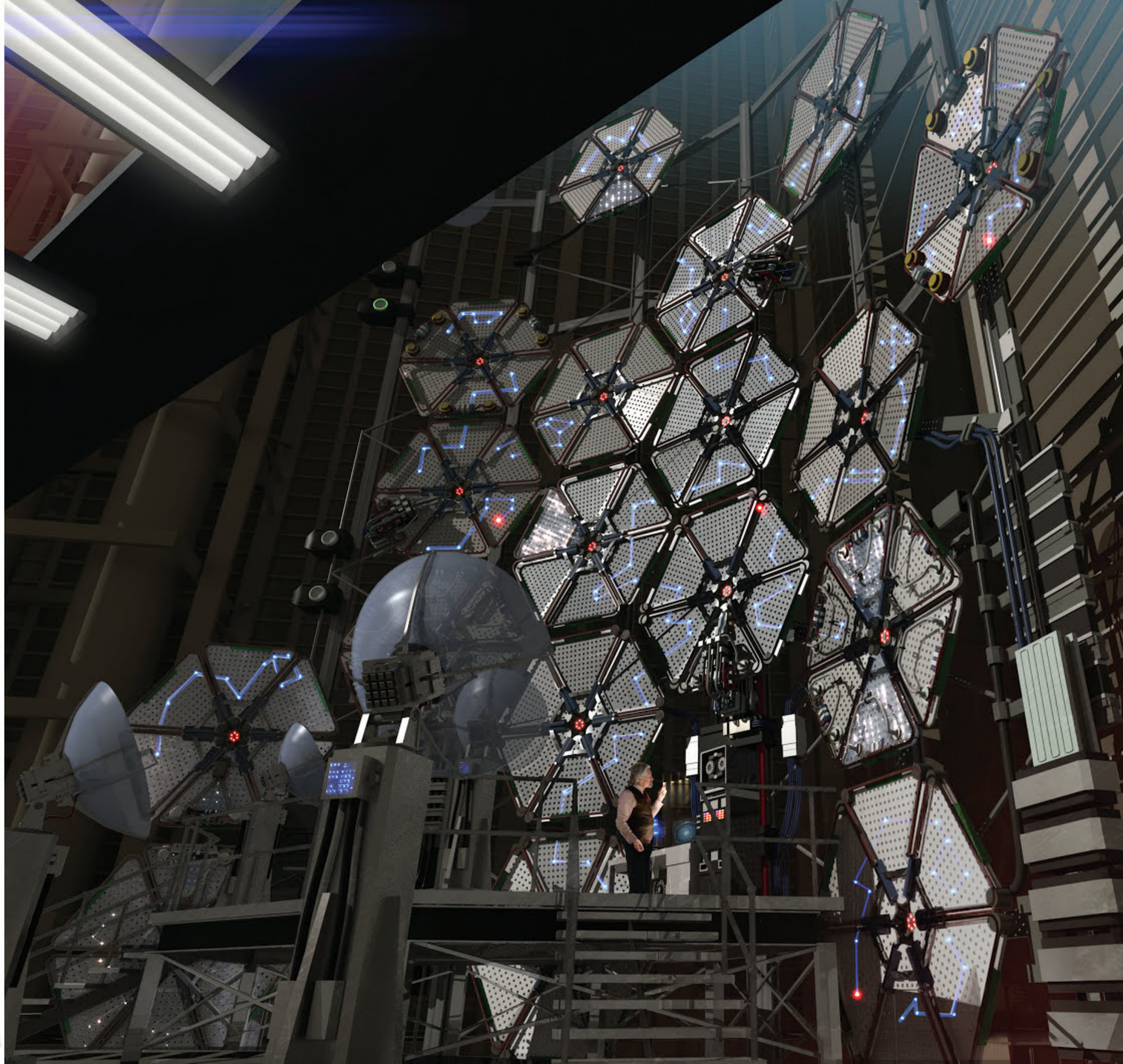


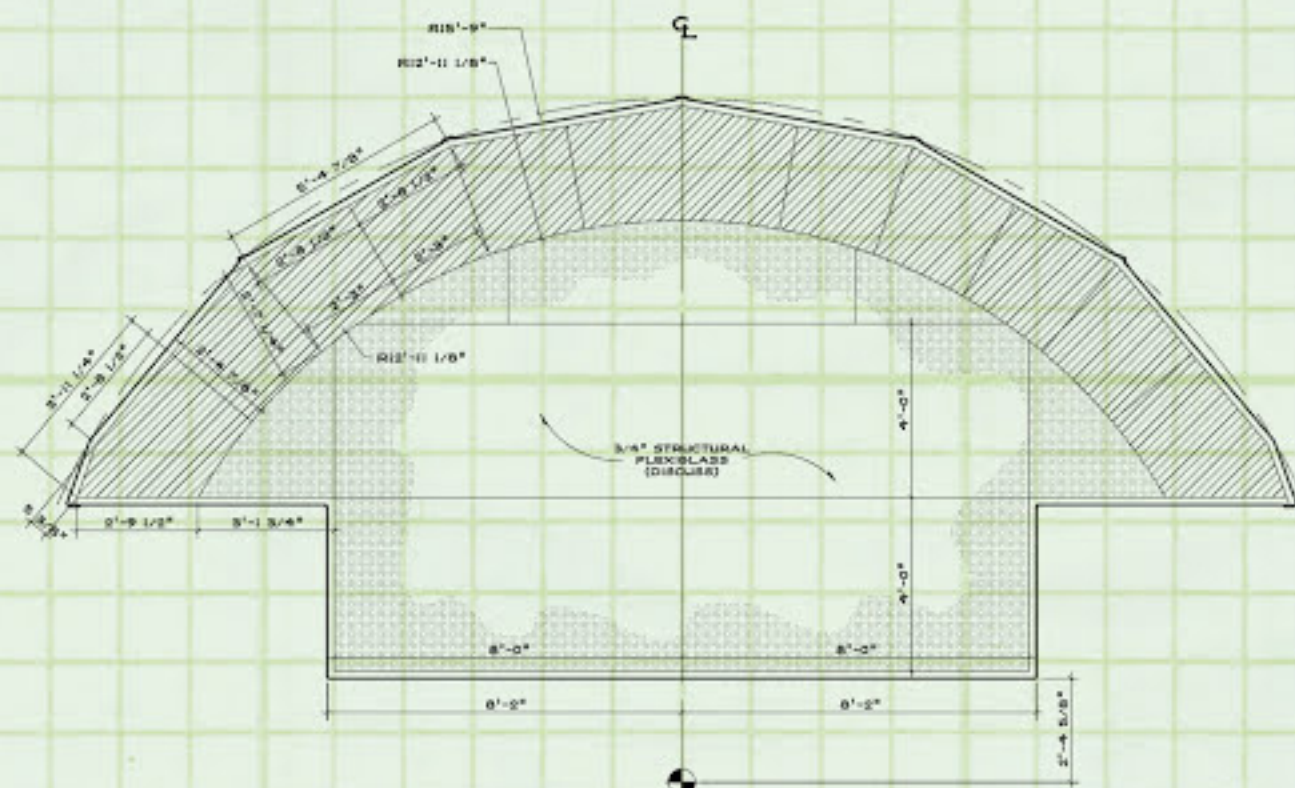


■ PREVIOUS
TOMOV

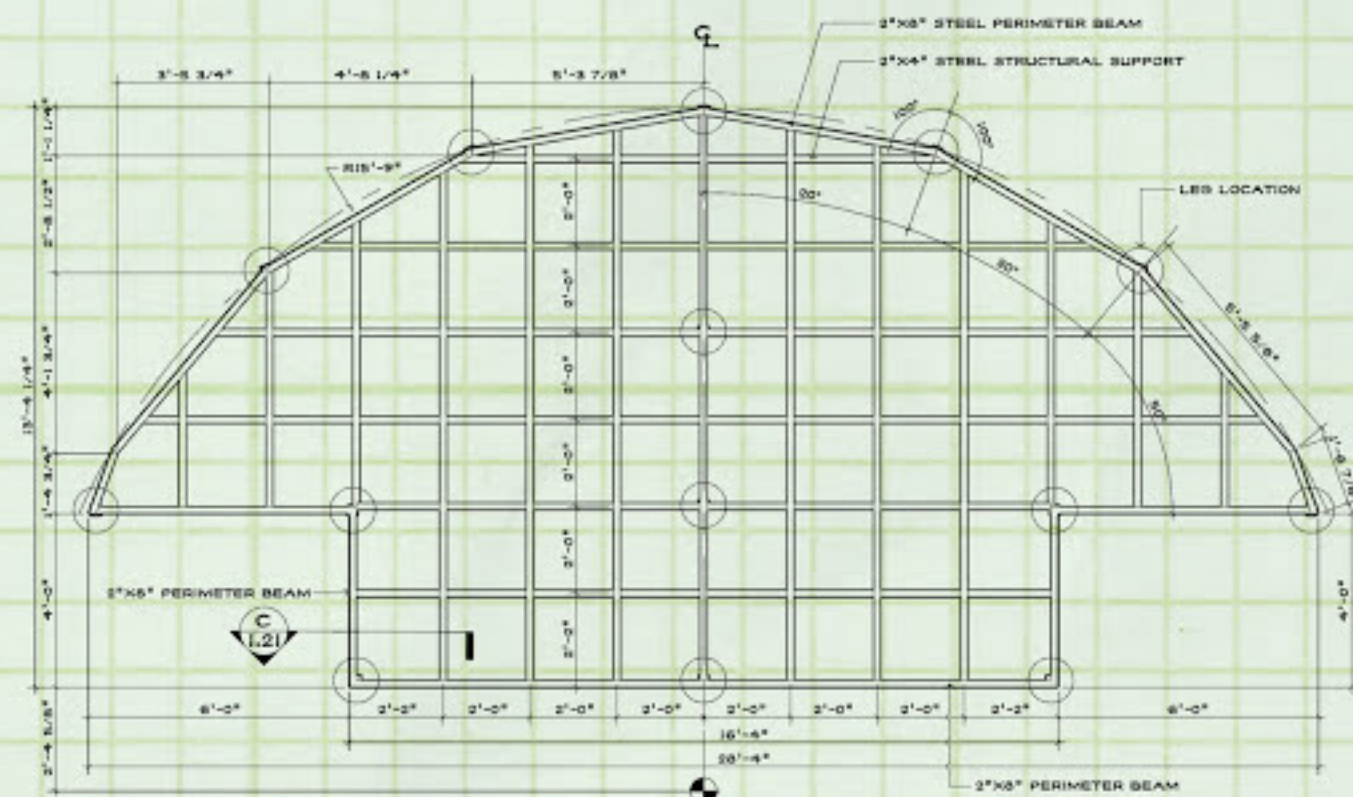
◀ TOP
TOMOV
MIDDLE &
BOTTOM
RAMA

▶ CHUNG ▶

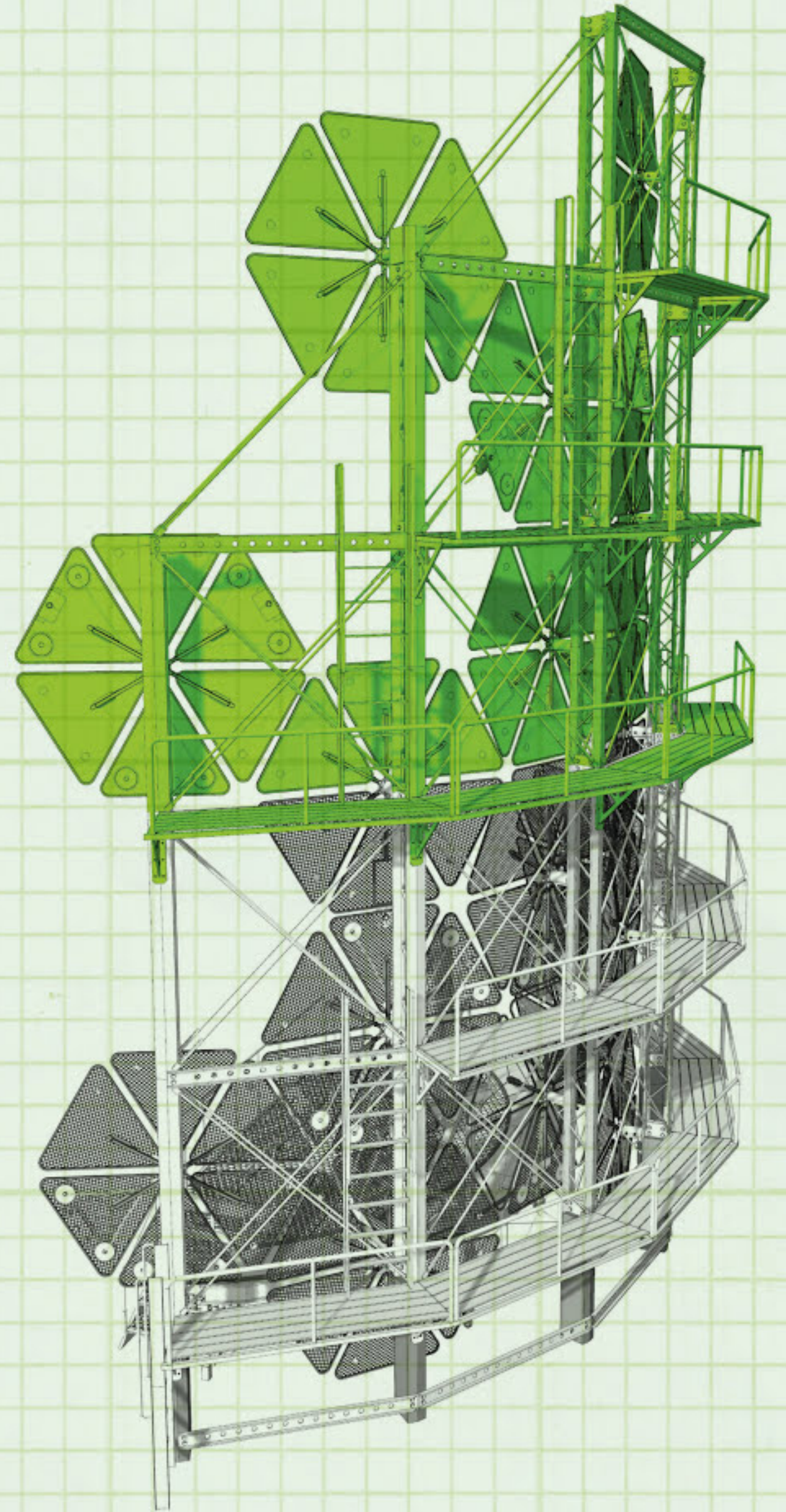
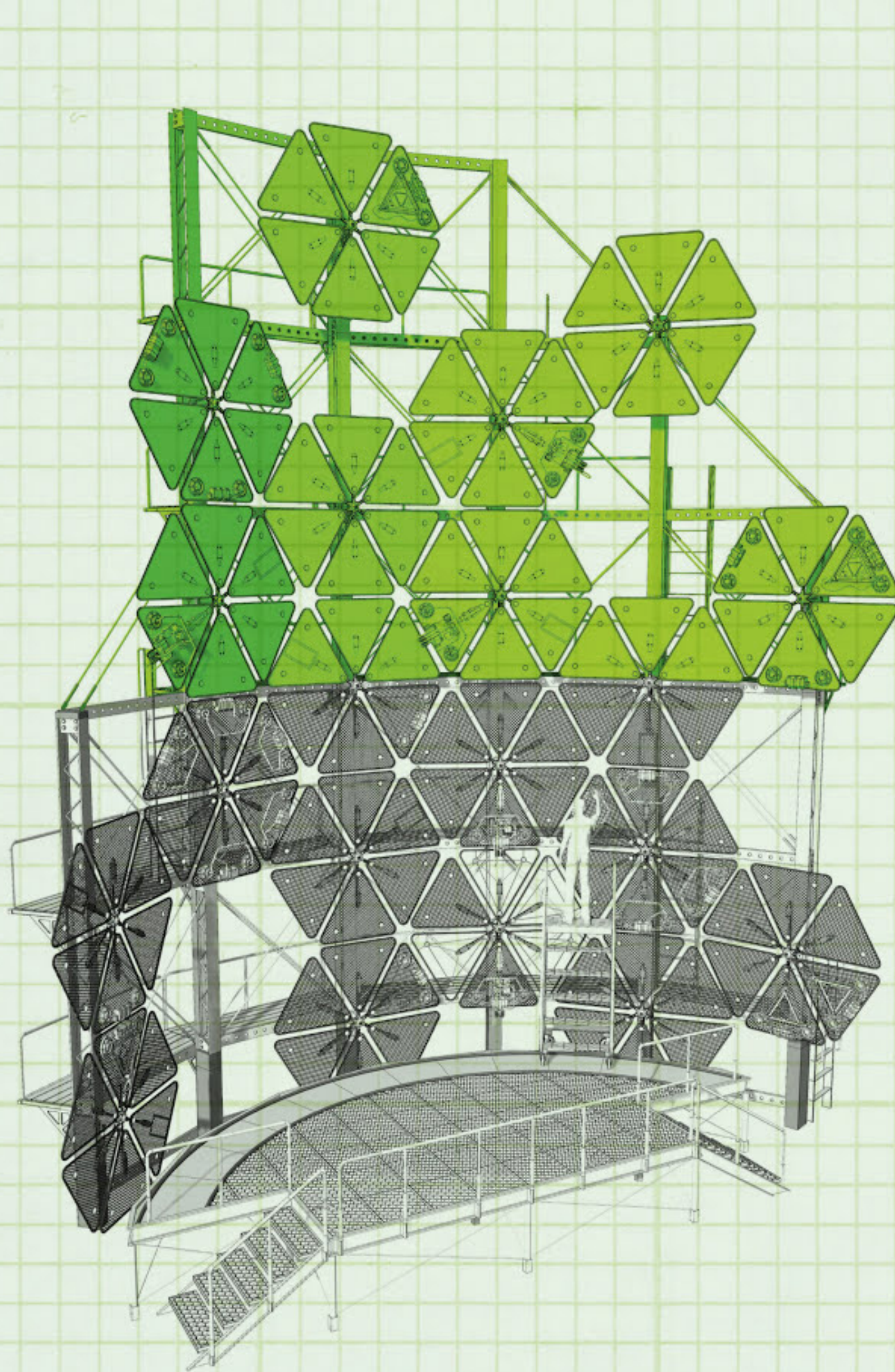


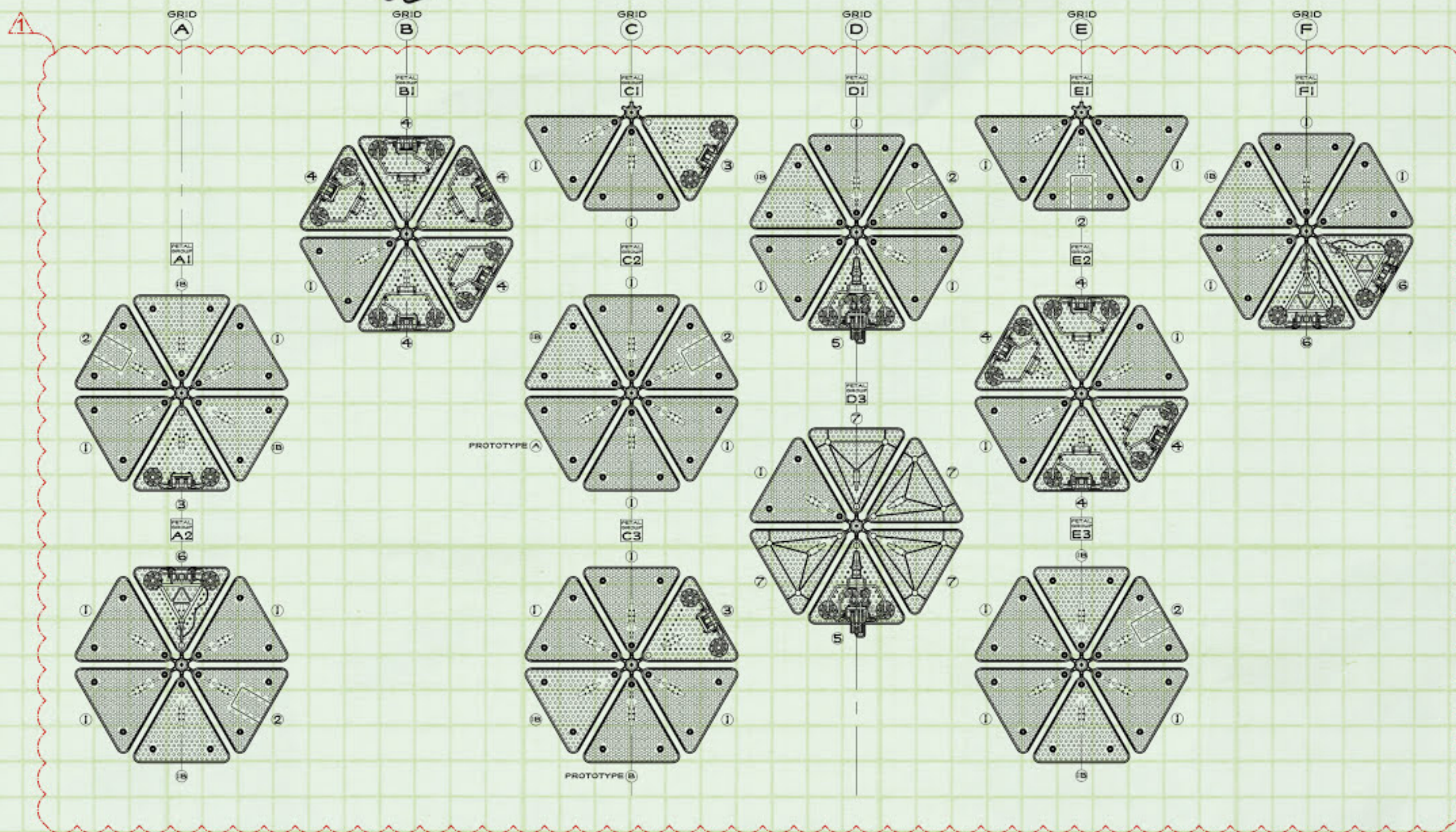
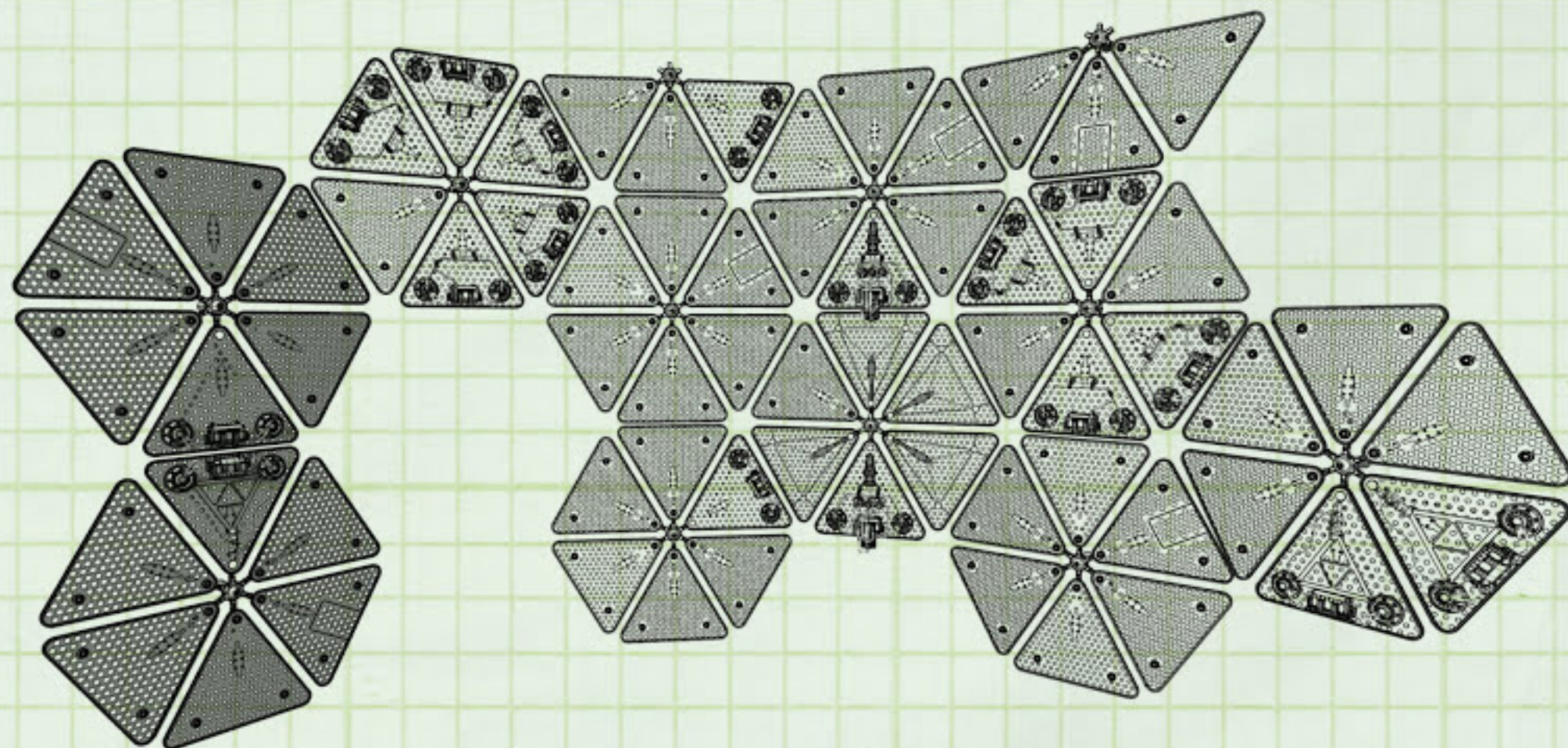


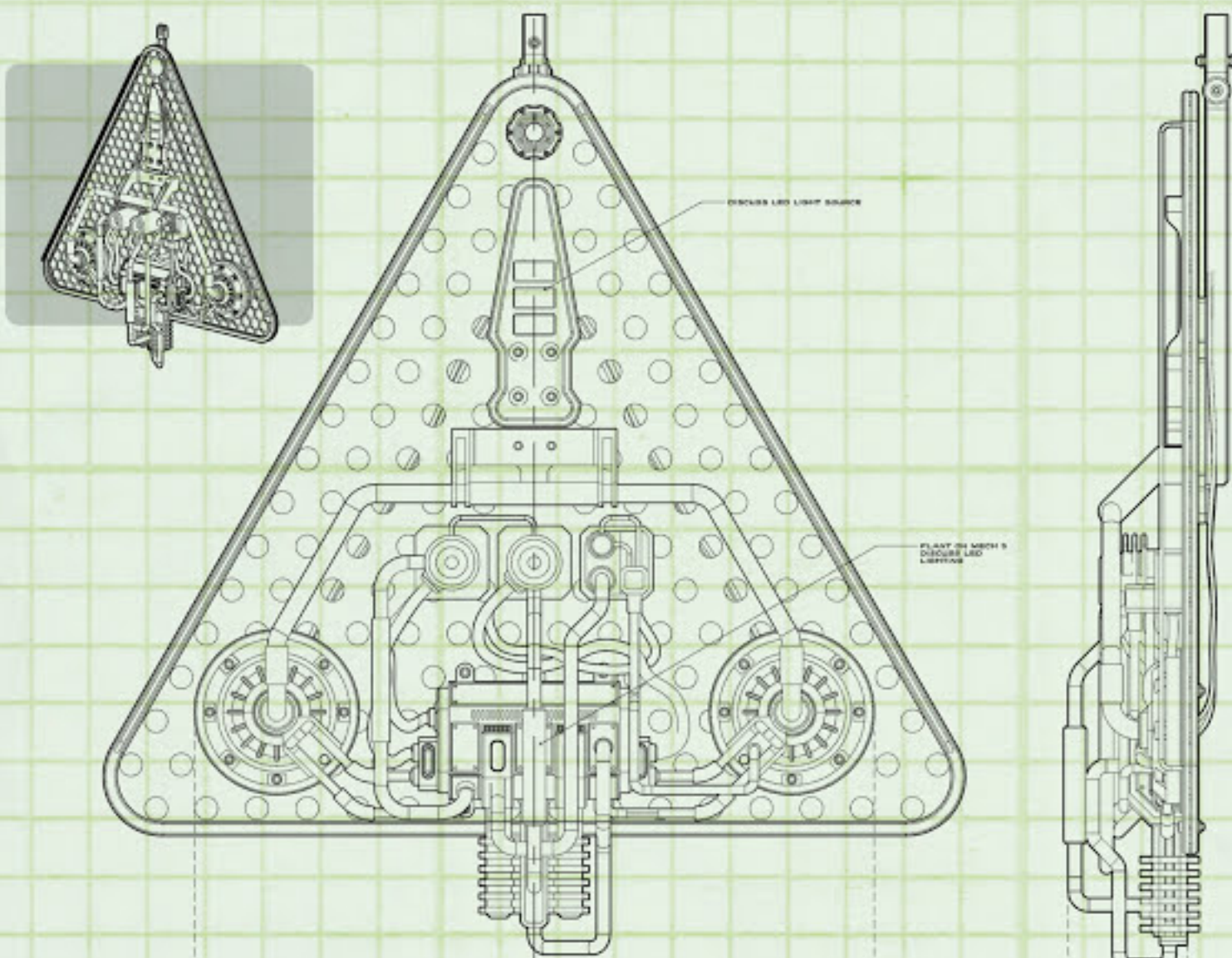
G2 PLATFORM STRUCTURAL ASSEMBLY PLAN
SCALE: 1/32" = 1'-0"



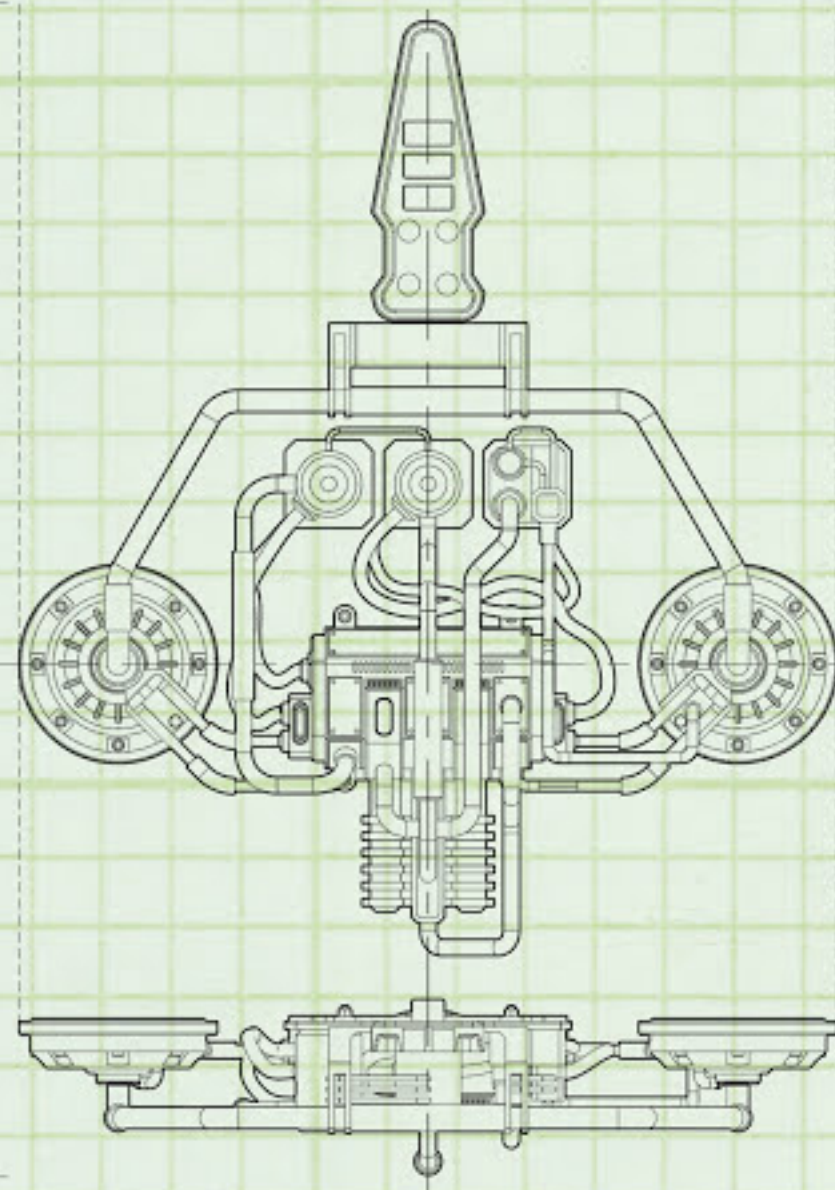
G3 PLATFORM STRUCTURAL ASSEMBLY PLAN
SCALE: 1/32" = 1'-0"



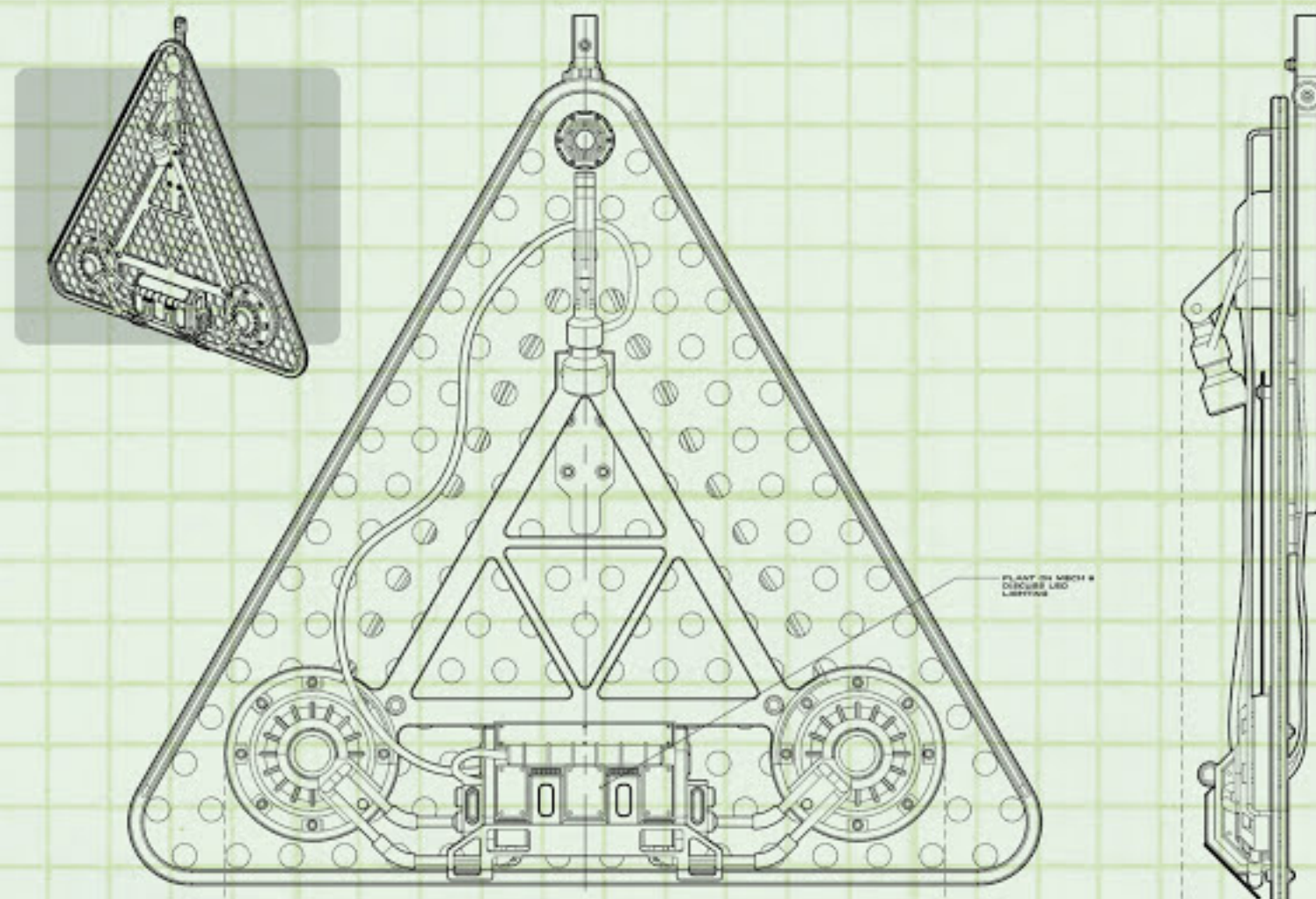
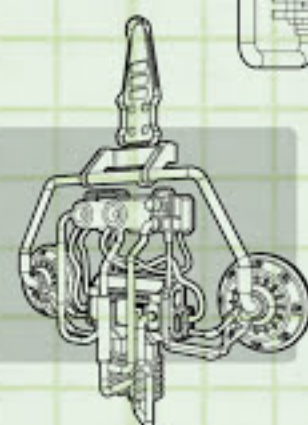




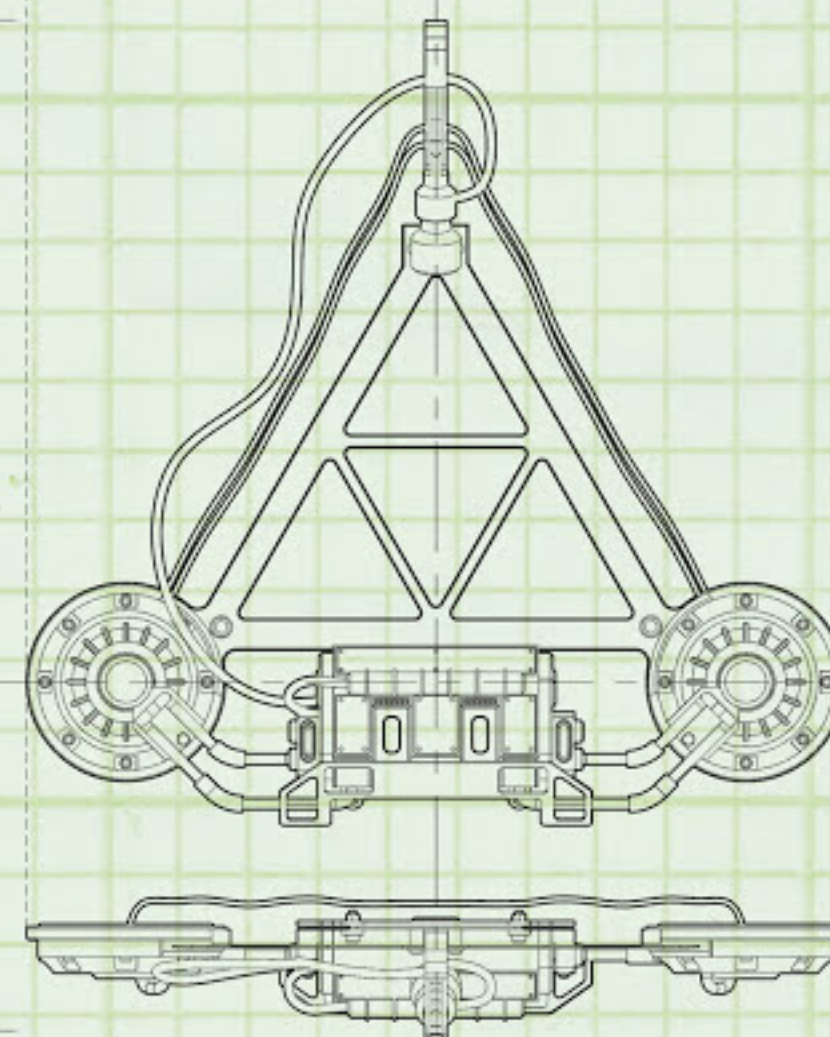
MECH PLANT ON 5



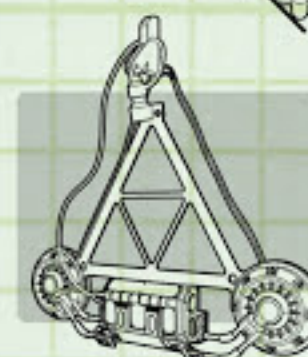
TOTAL COUNT: 2
P5 PETAL ASSEMBLY 5
SCALE: 3" = 1'-0"



MECH PLANT ON 6



TOTAL COUNT: 3
P6 PETAL ASSEMBLY 6
SCALE: 3" = 1'-0"







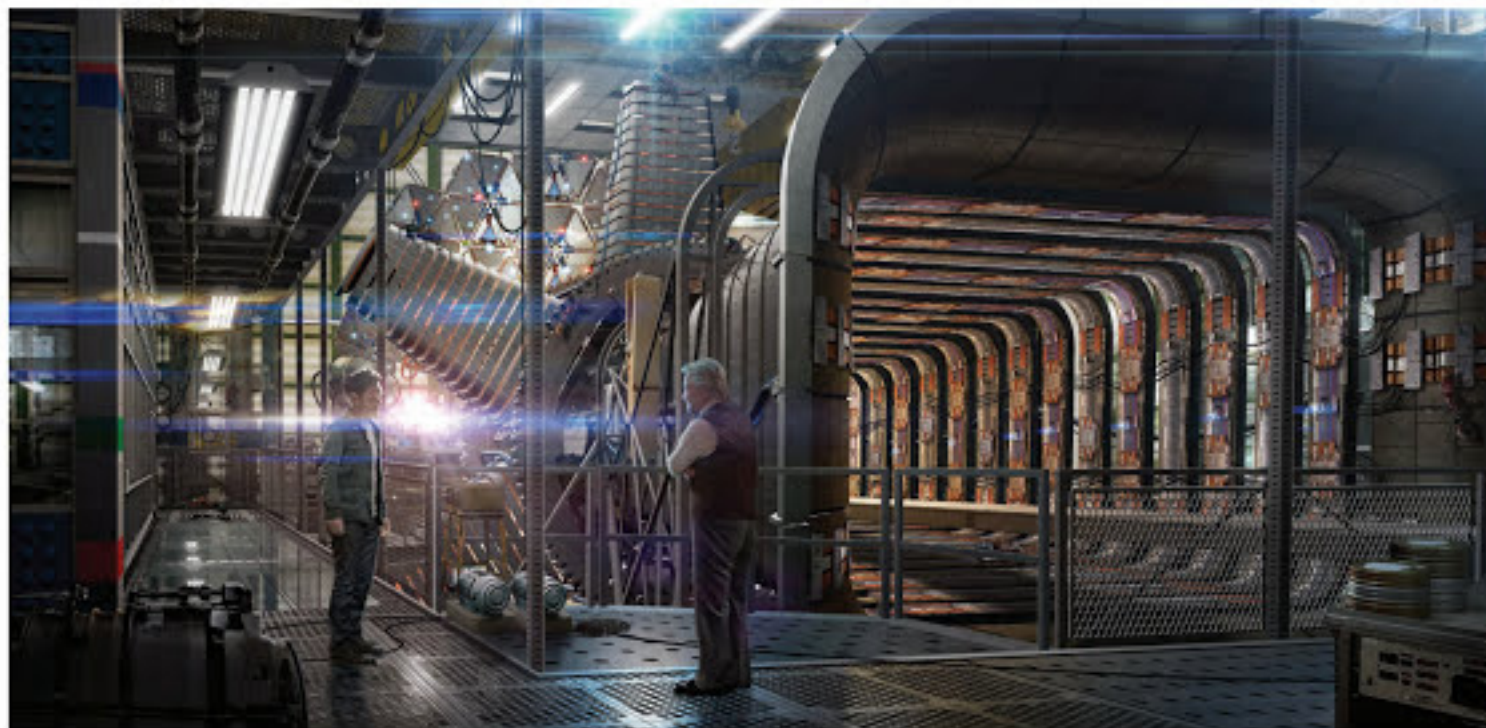
QUANTUM TUNNEL

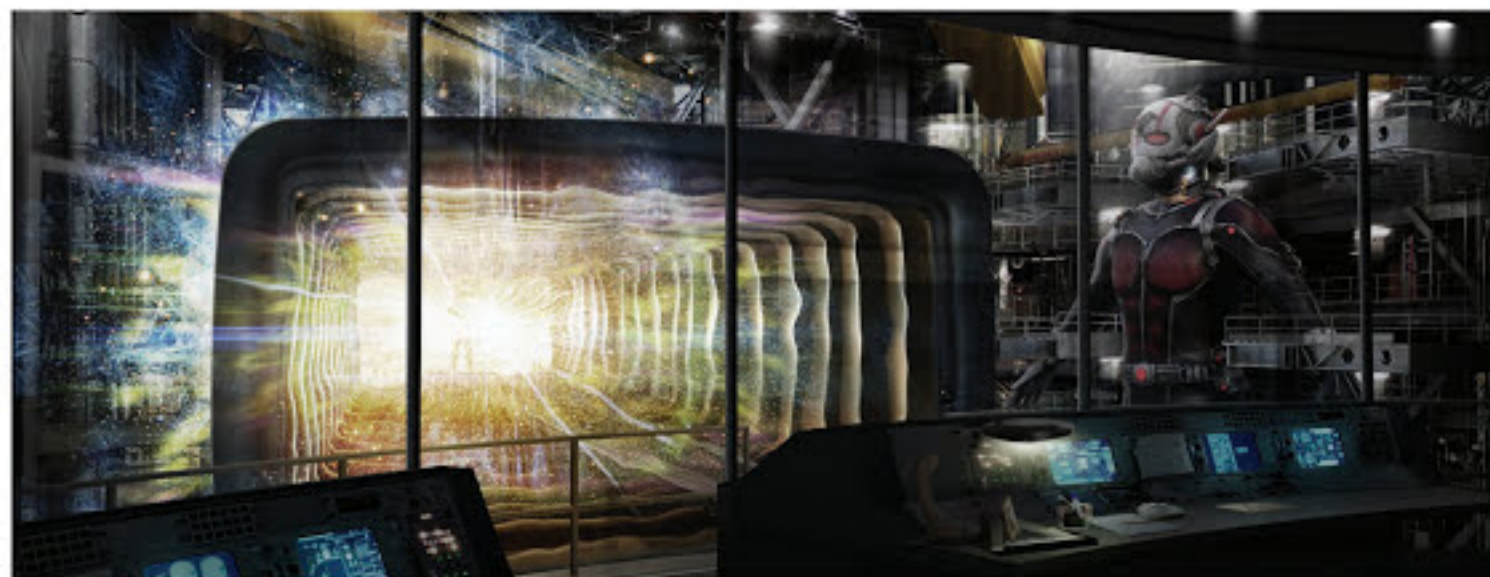
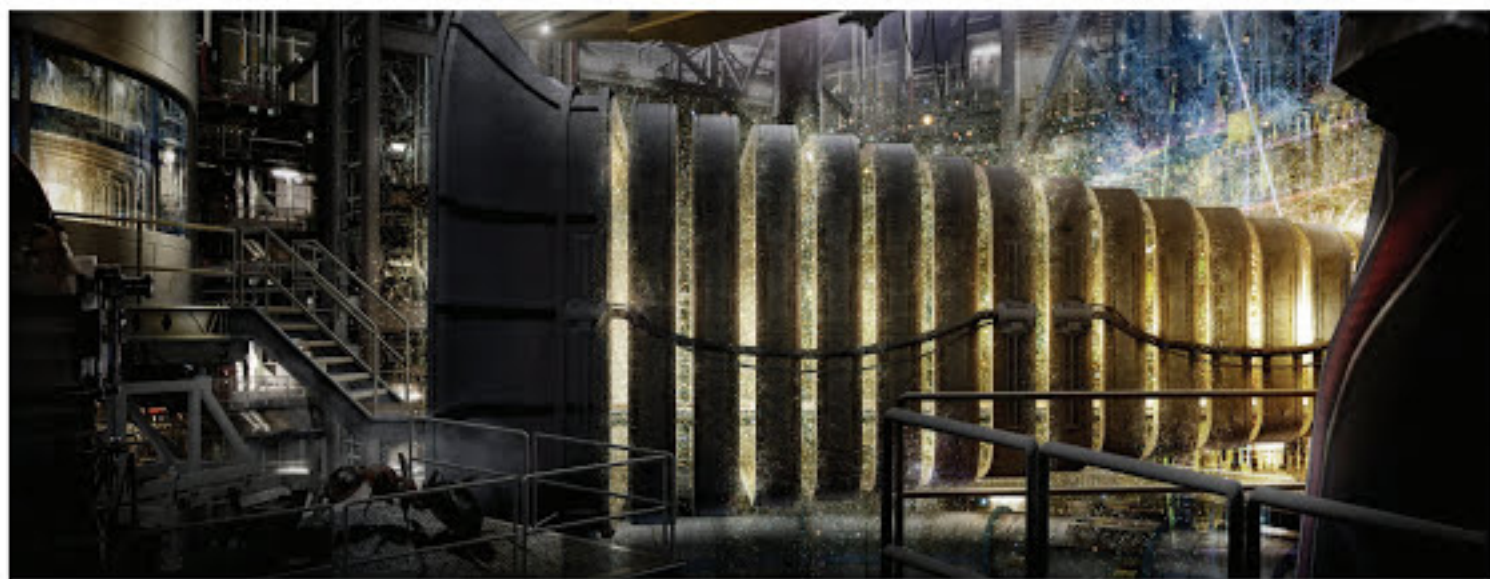
"We have one of the greatest sets that I've ever seen from Production Designer Shepherd Frankel," says Michael Douglas. "It's just a stunning, stunning set. And as big as it is, we will make you believe that I can reduce it to the size of a travel suitcase and take it wherever I want."

◀ YANG ■ BEN-MIMOUN



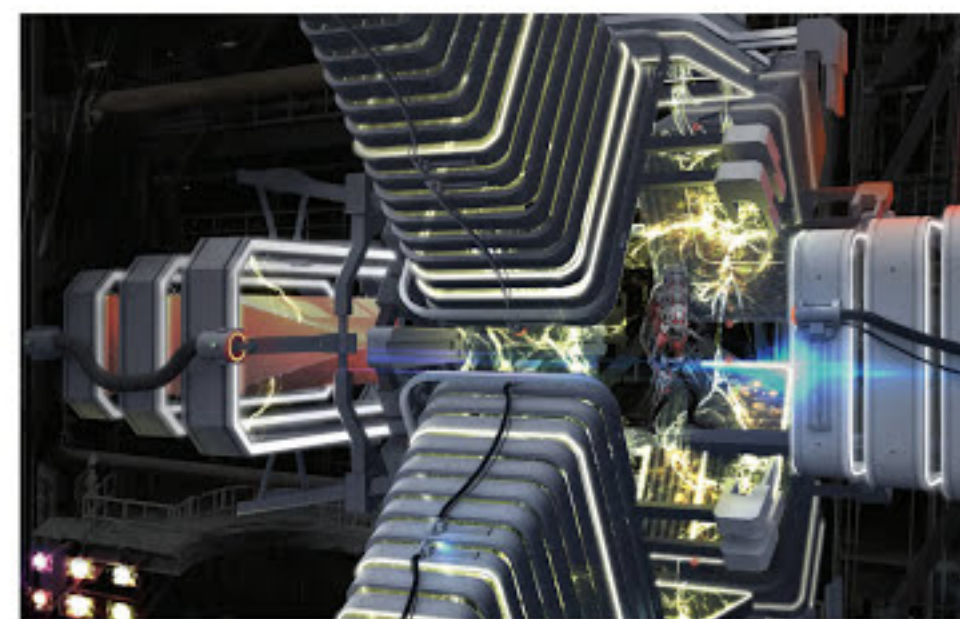
CHERRY BLUE
QUANTUM GATE - 04/17/2015
LAURENT BEN-MIMOUN



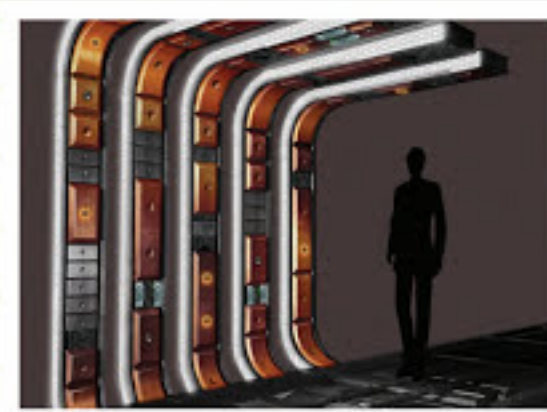
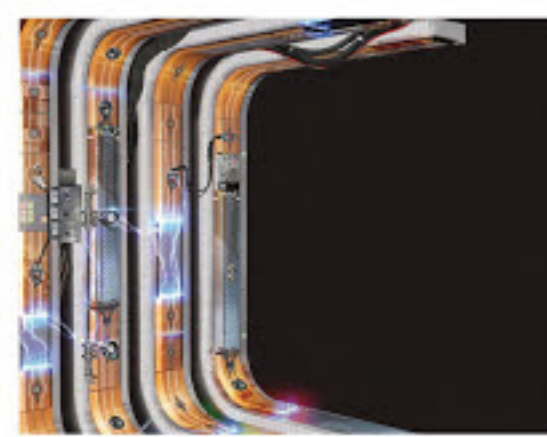
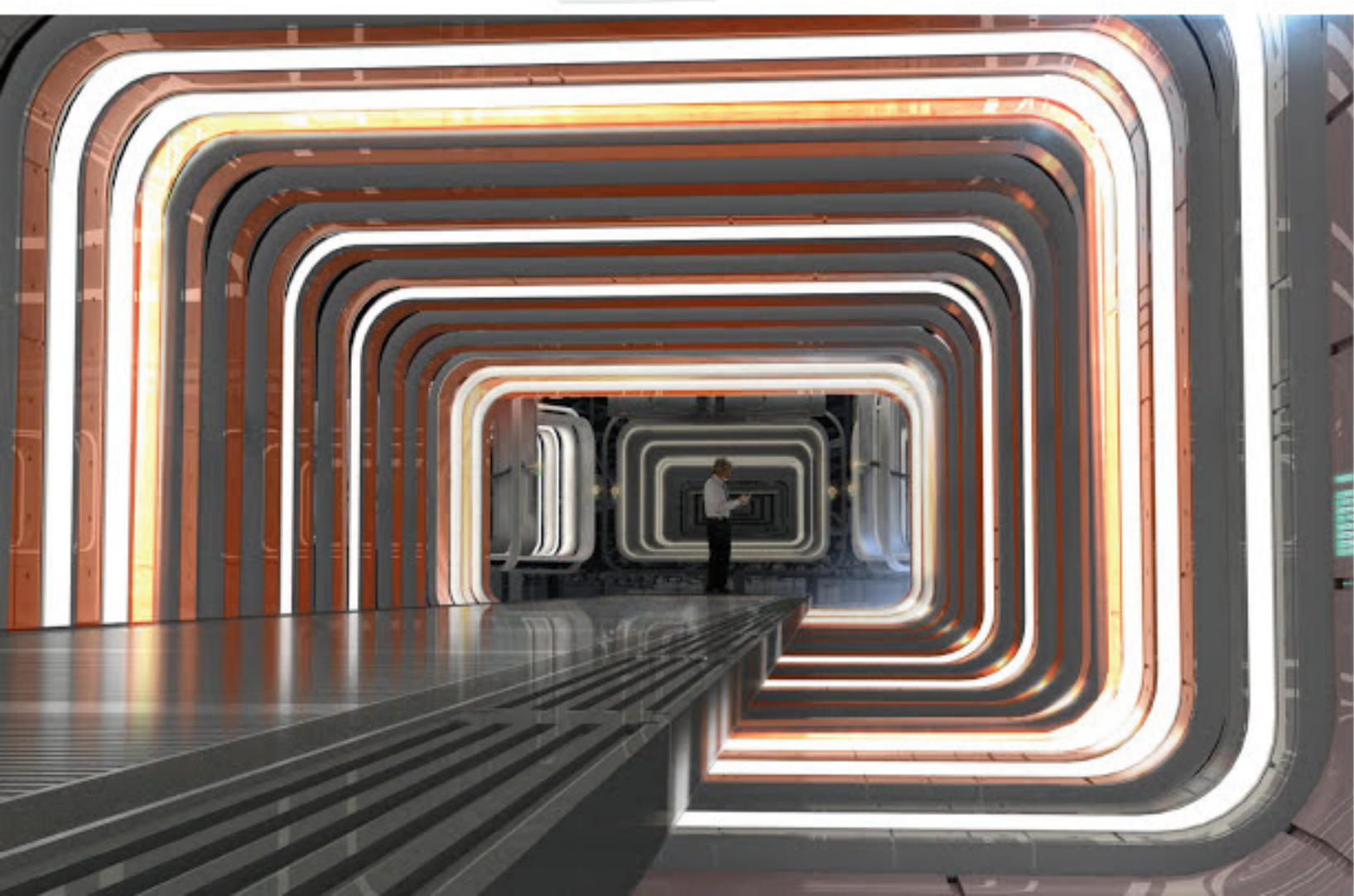




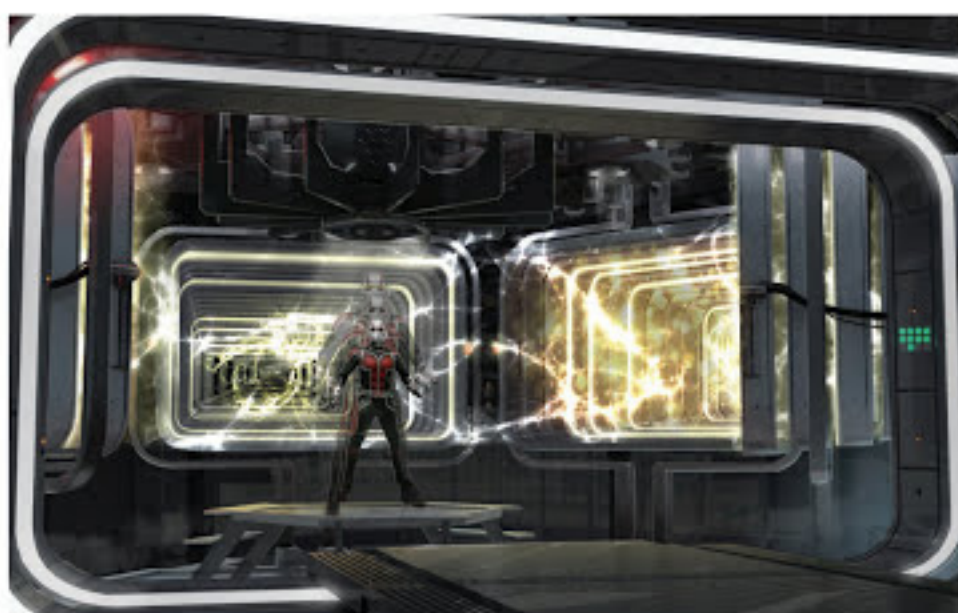
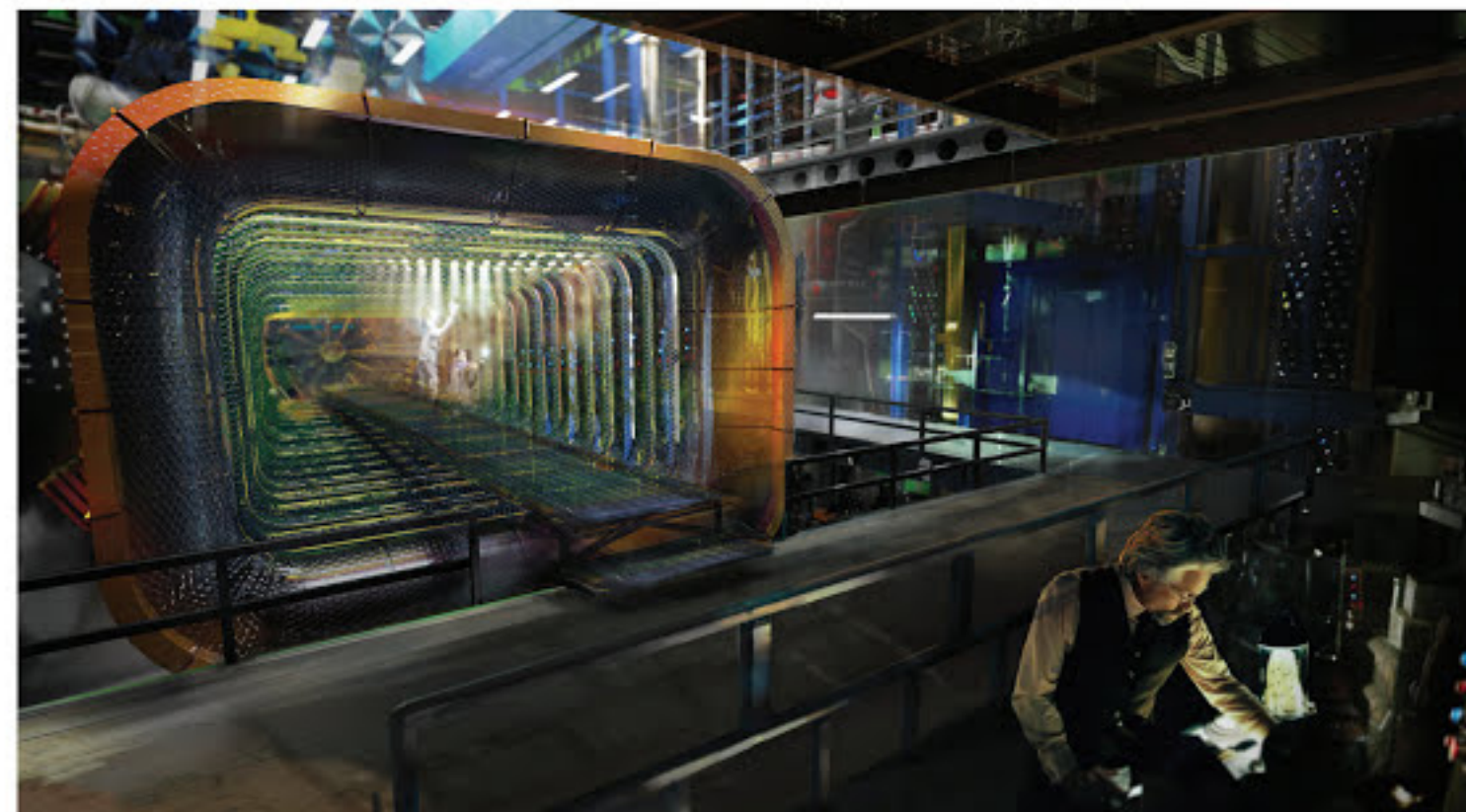
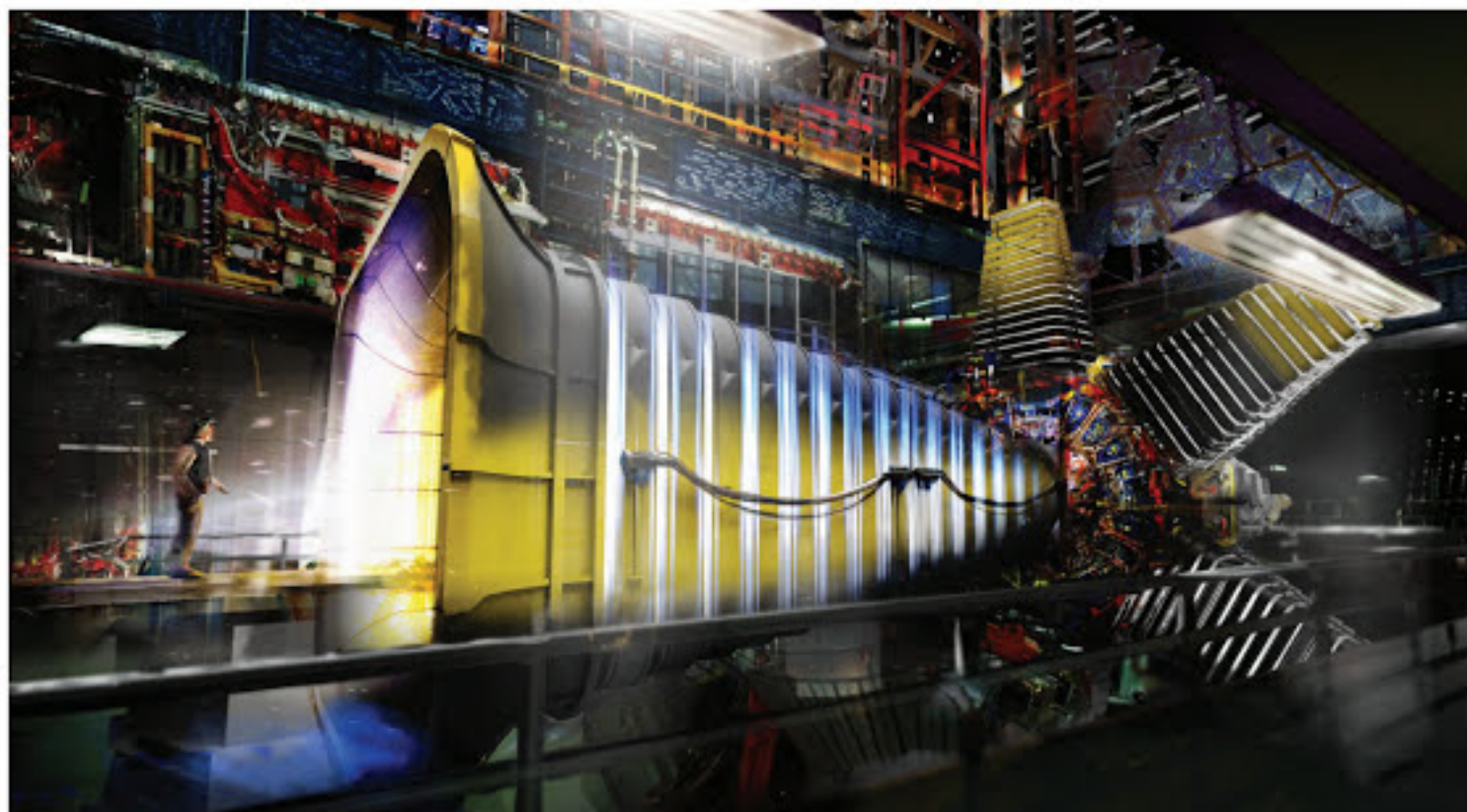
TOMOV ▲



CHUNG ▲



CHUNG



HANK PYM LOG ENTRY:

We're so close I can feel it! The ants, Hope, and I have been working non-stop trying to finish the Quantum Tunnel. We just need a few more pieces, but they're not easily accessible. We'll have to get them through some underground connections. They're a bit unsavory, and I despise using them, but we don't have a choice. We're running out of time. — **H.P.**



THE QUANTUM TUNNEL GATE is the means through which Hank will travel to the Quantum Realm. "Peyton was really interested in honoring and referencing traditional time tunnels, but taking it to a whole new level," Frankel says.

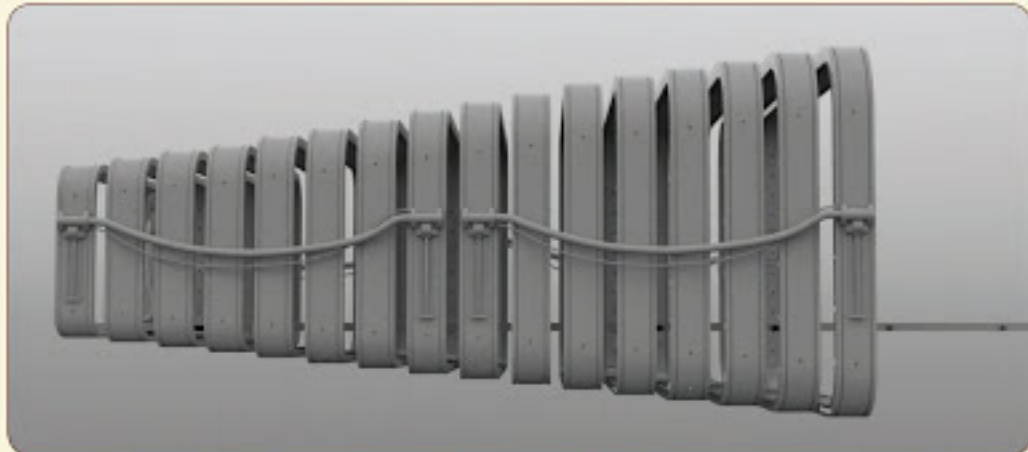


Fig. A.1

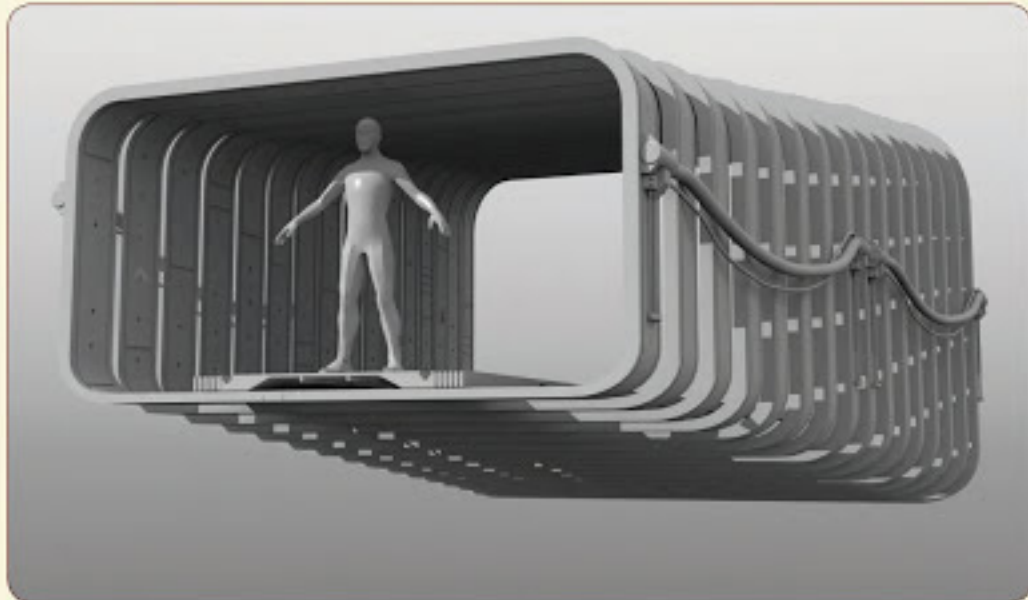


Fig. A.4

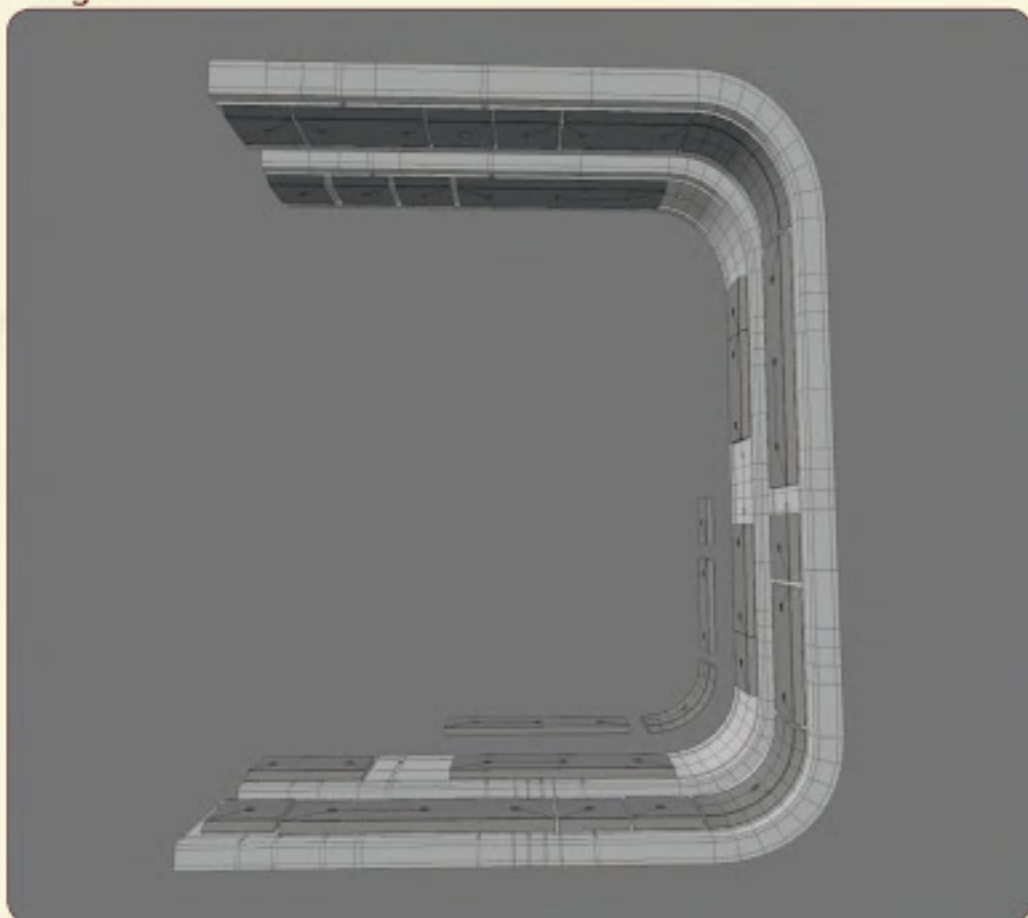


Fig. A.5

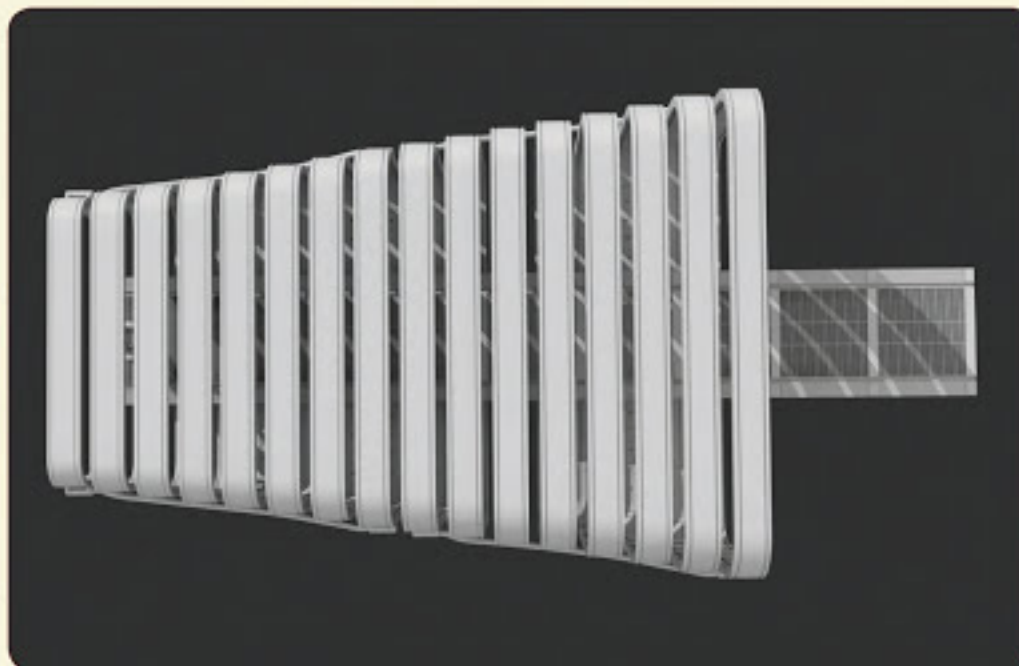


Fig. A.2

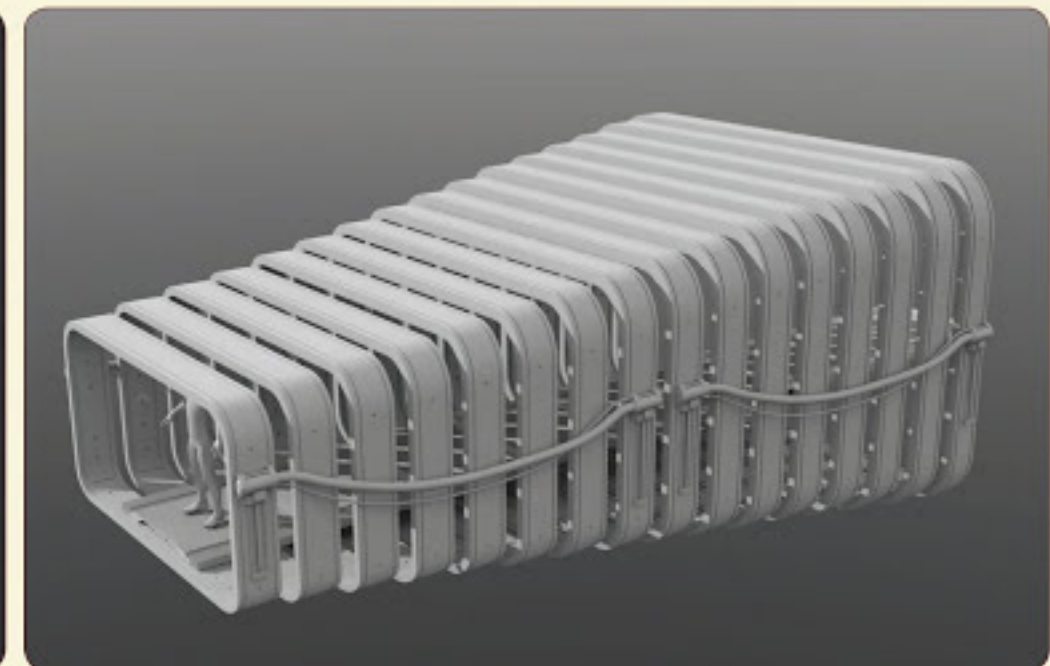


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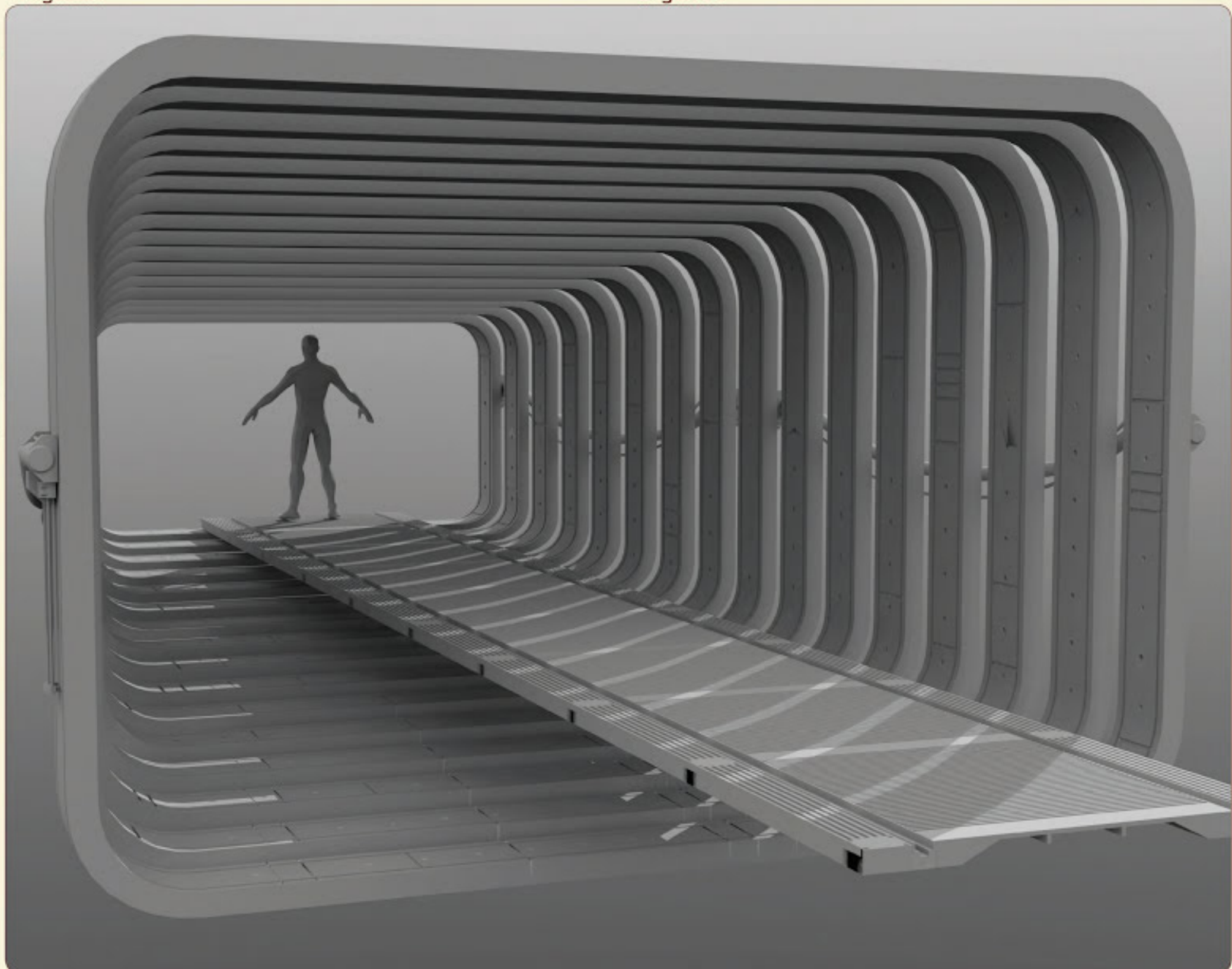


Fig. A.6

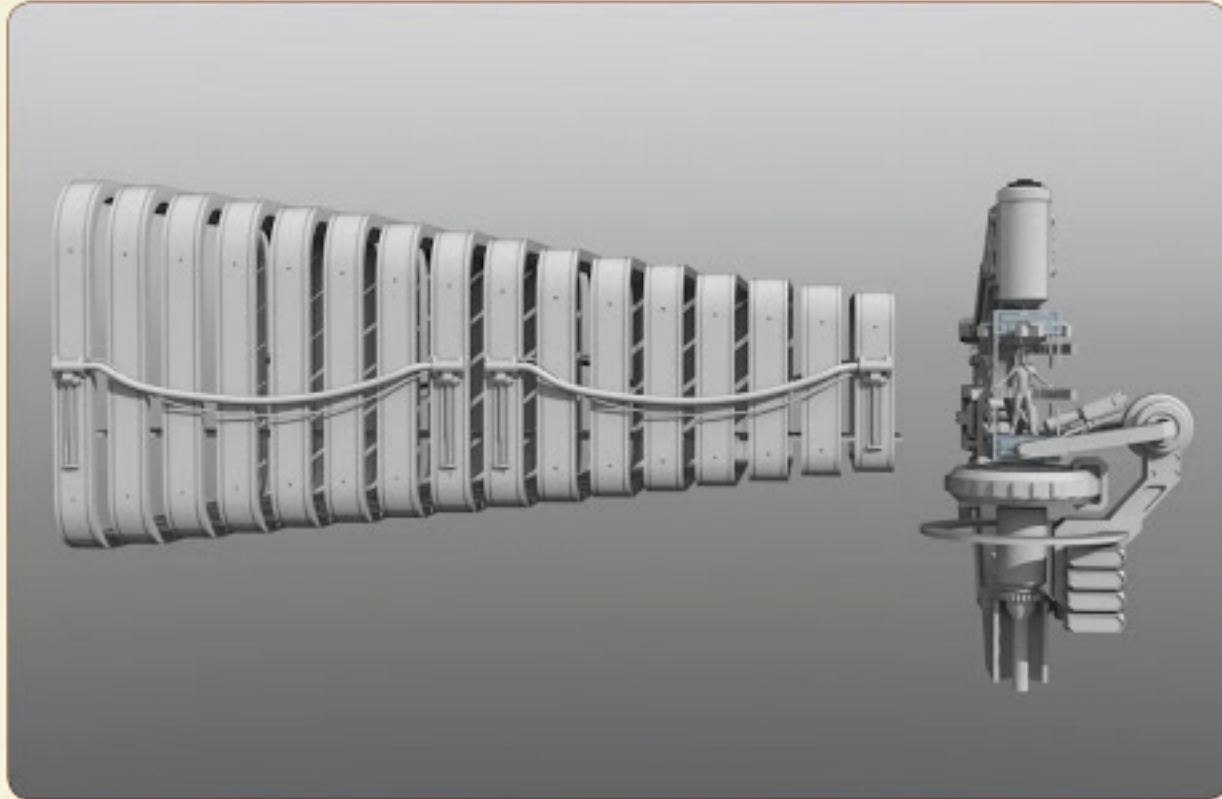


Fig. B.1

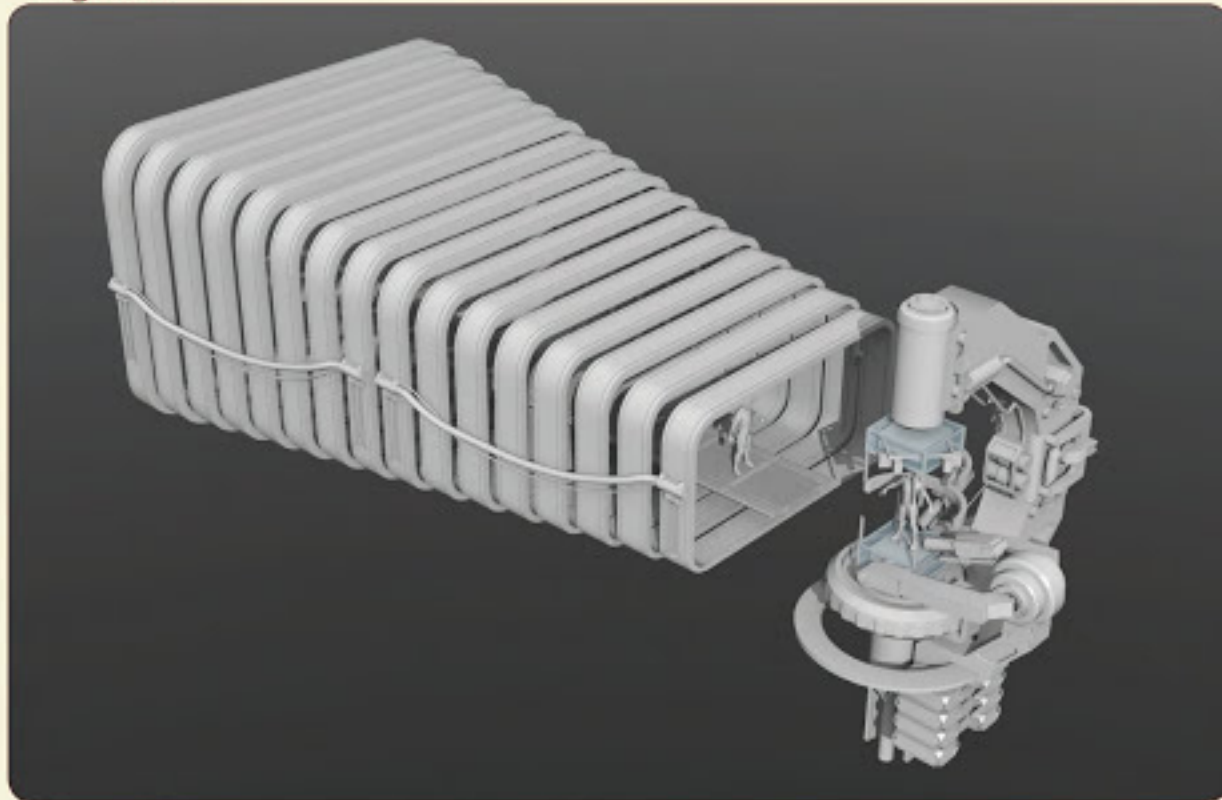


Fig. B.2

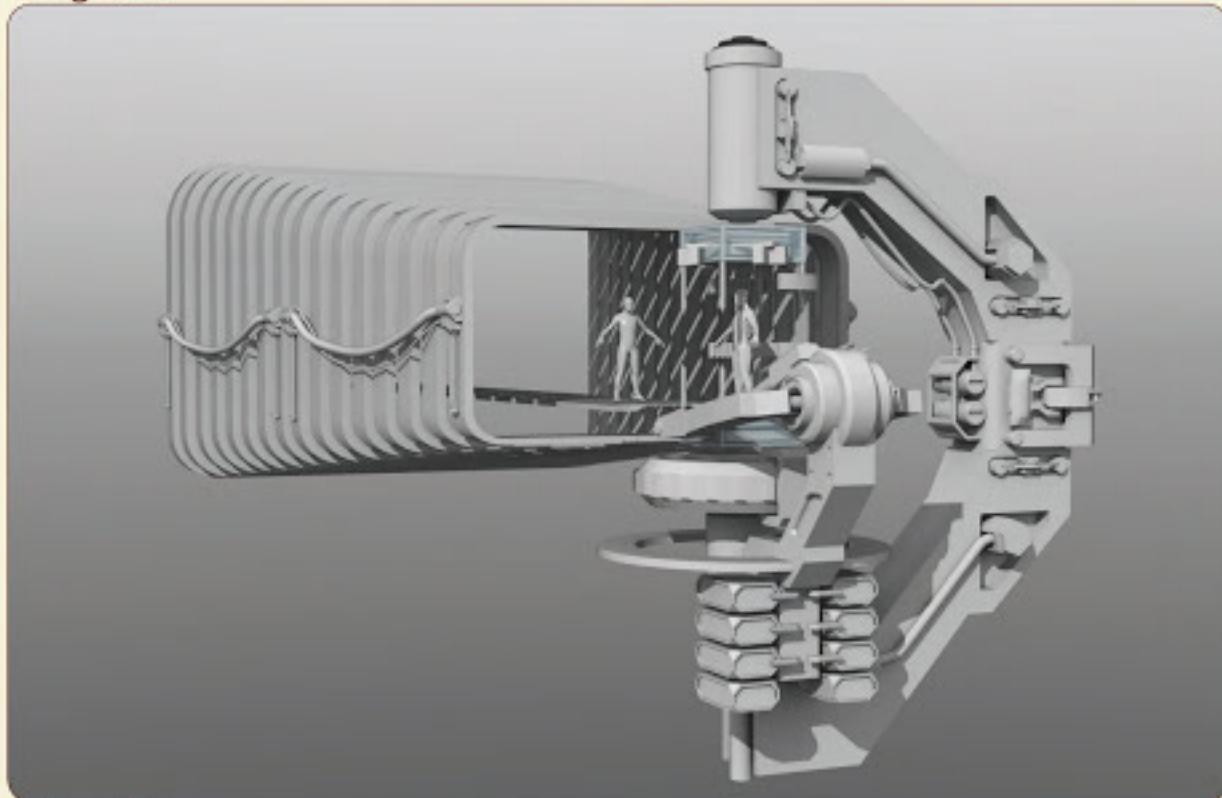


Fig. B.3

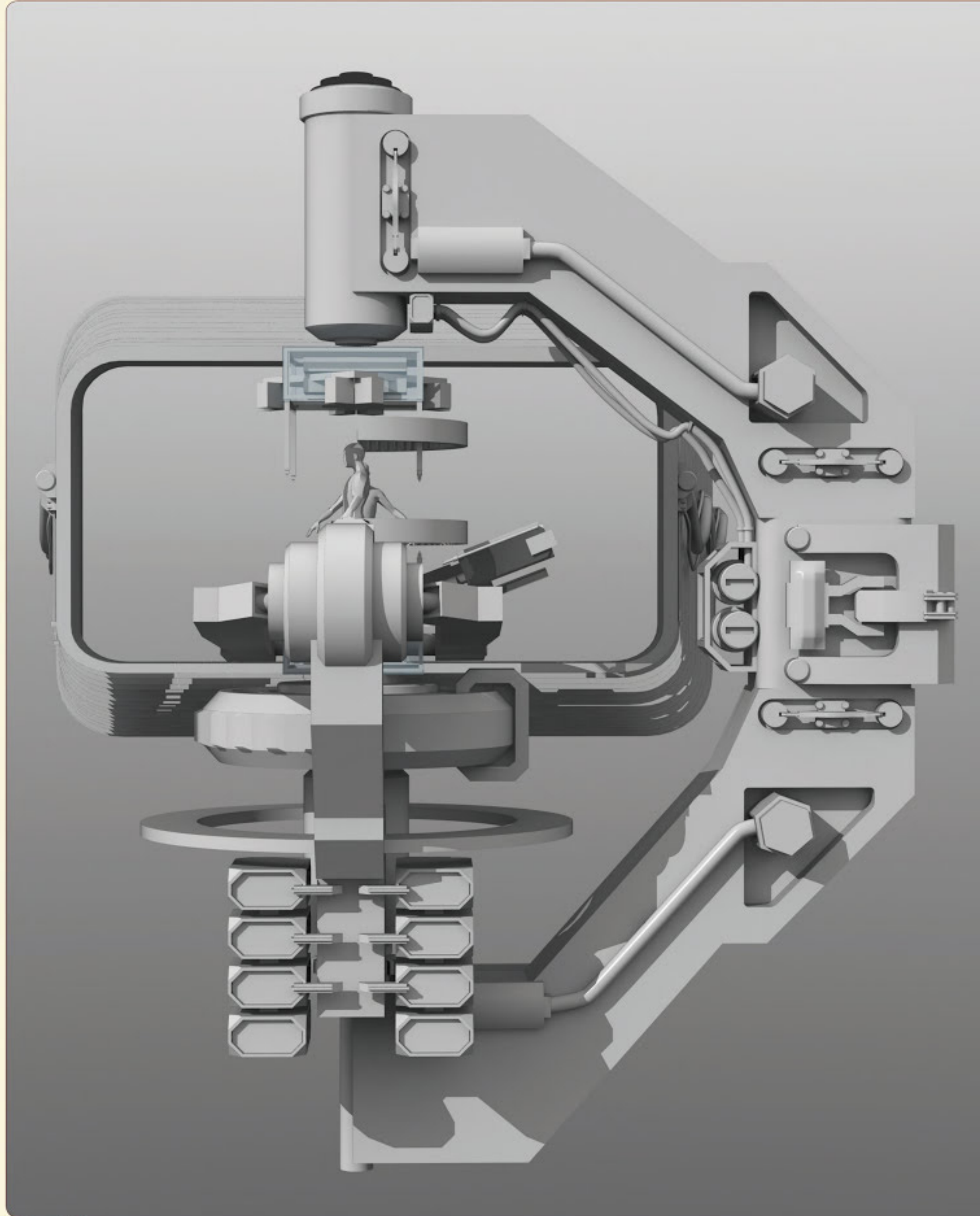


Fig. B.4

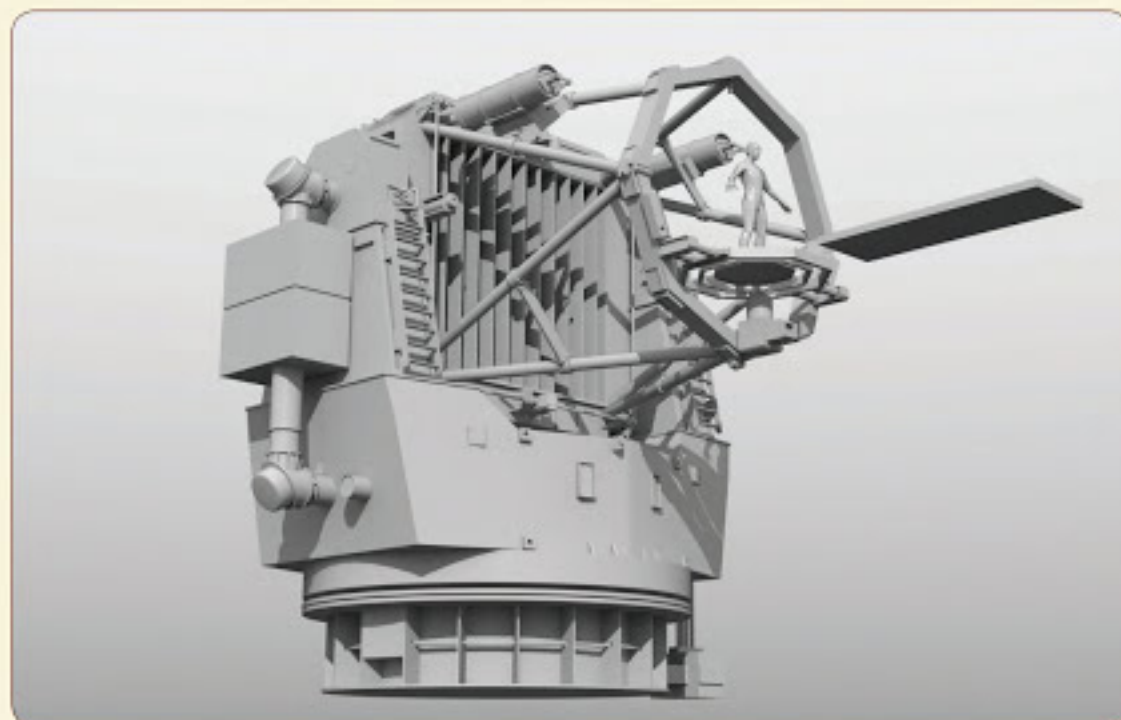


Fig. C.1

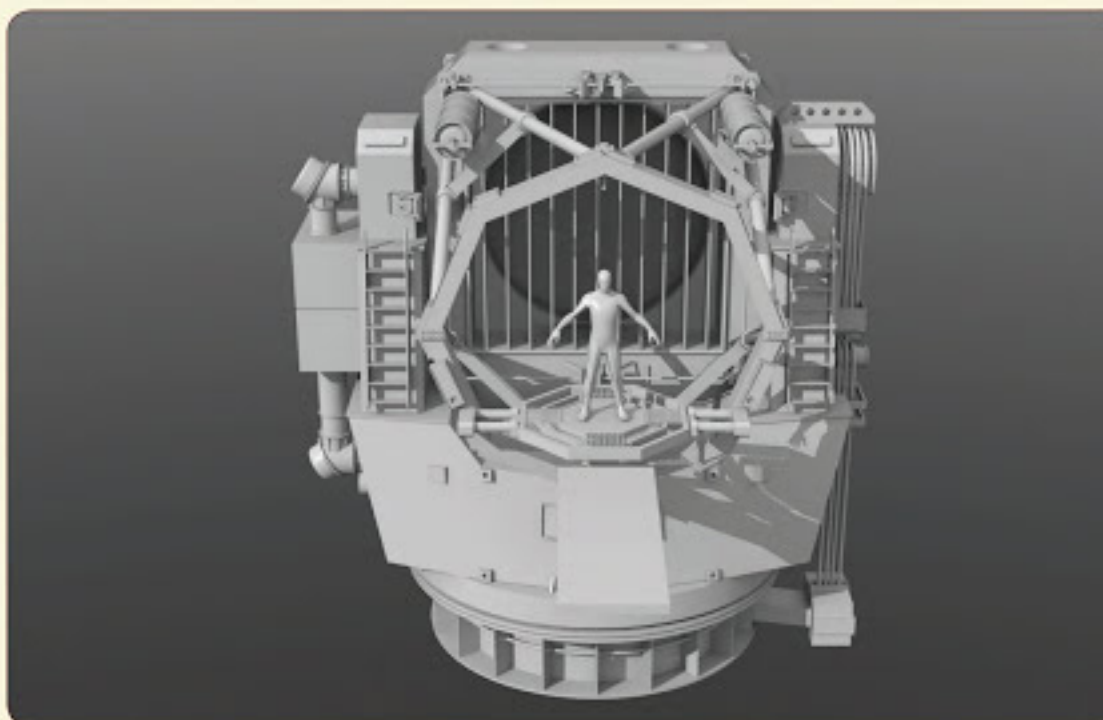


Fig. C.2

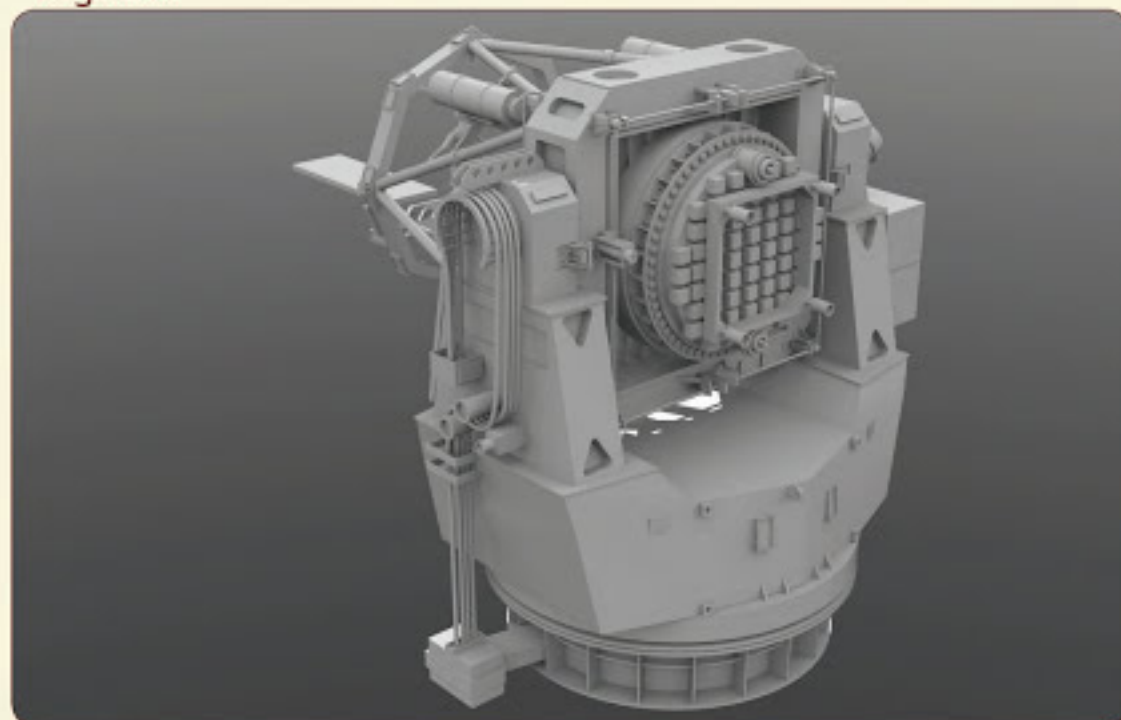


Fig. C.3

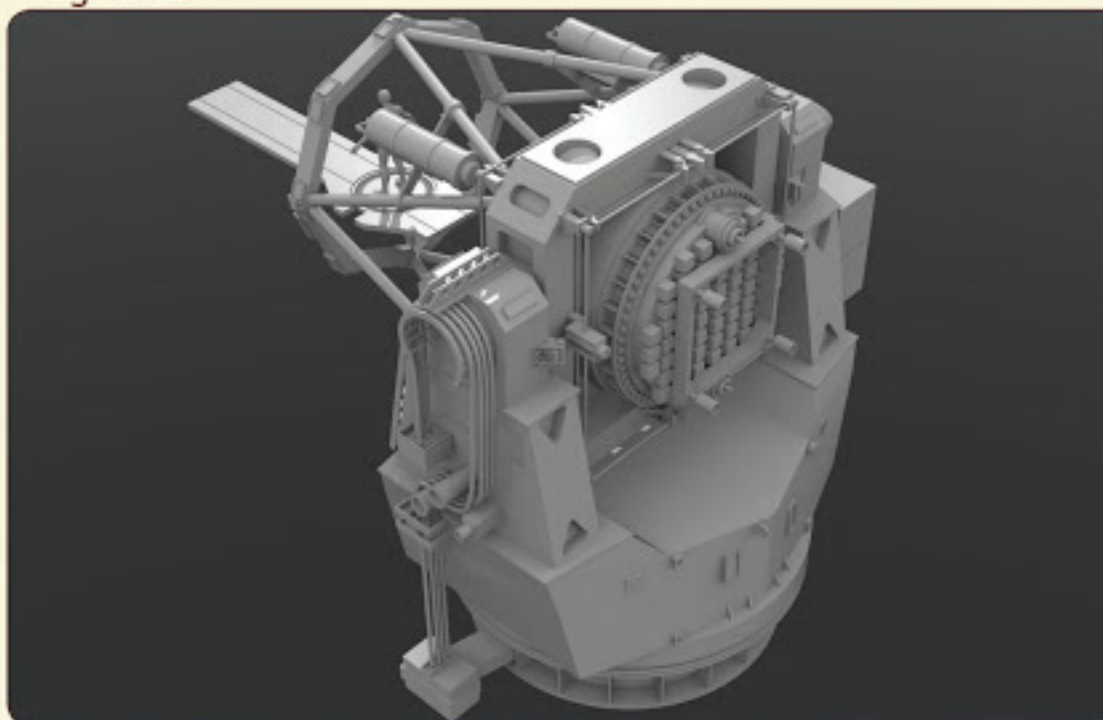


Fig. C.4

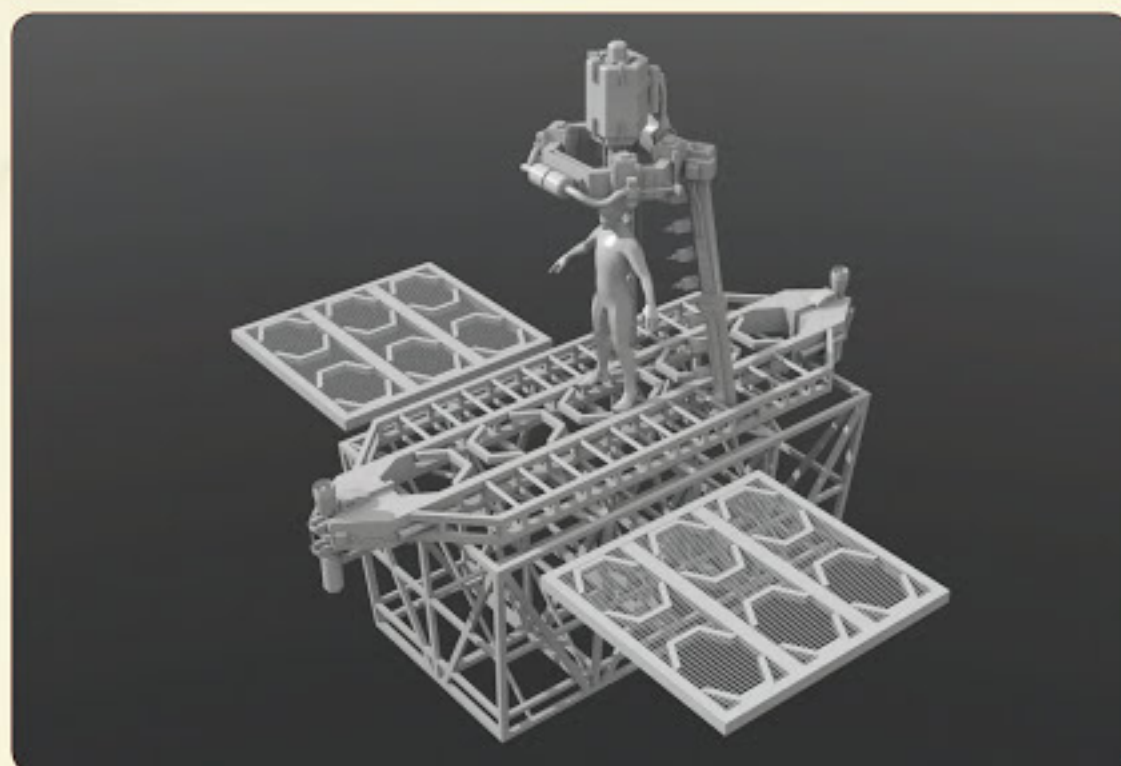


Fig. D.1



Fig. D.2

"THE LAB IS maybe one of the most elaborate sets that I've ever been involved in, on any film that I've worked on—even other Marvel films," Charles Newirth says. "It's a film where this set has been sort of the jewel, the centerpiece of it, and it is the focal point of the story. It took many, many months to design and to execute and to build, and it went through so many iterations. We were hoping we were going to be able to pull it off, and we had to pull together a lot of different technologies to make it work. It wasn't just your standard construction that you would utilize for most films."

"We had to bring in our special effects supervisor—Dan Sudick, who's a wizard—but not for any special effects in particular. He's developed a manufacturing process through the most current technology of laser cutting and computer-aided design where he had these machines that were able to manufacture the Quantum Tunnel, which is thousands of very intricate pieces that had to be fit together, lit with I can't remember how many miles of cable. And to have this all wired and work together was just such a great collaboration of Shepherd Frankel, our production designer; Dan Sudick, our special effects supervisor; and Dante Spinotti, our director of photography, who had to come up with a lighting design for all this to make the interactivity work. And then on top of that, it has to work for special effects and visual effects. Our visual effects supervisor—Stephane Ceretti, who's another genius and wizard; we worked together on *Doctor Strange*—is going to add a whole other element to a lot of this. So it was a quite an extensive collaboration that took many, many meetings, months of design, and months of execution, and we're lucky to have the best craftsmen in Hollywood to make it happen."

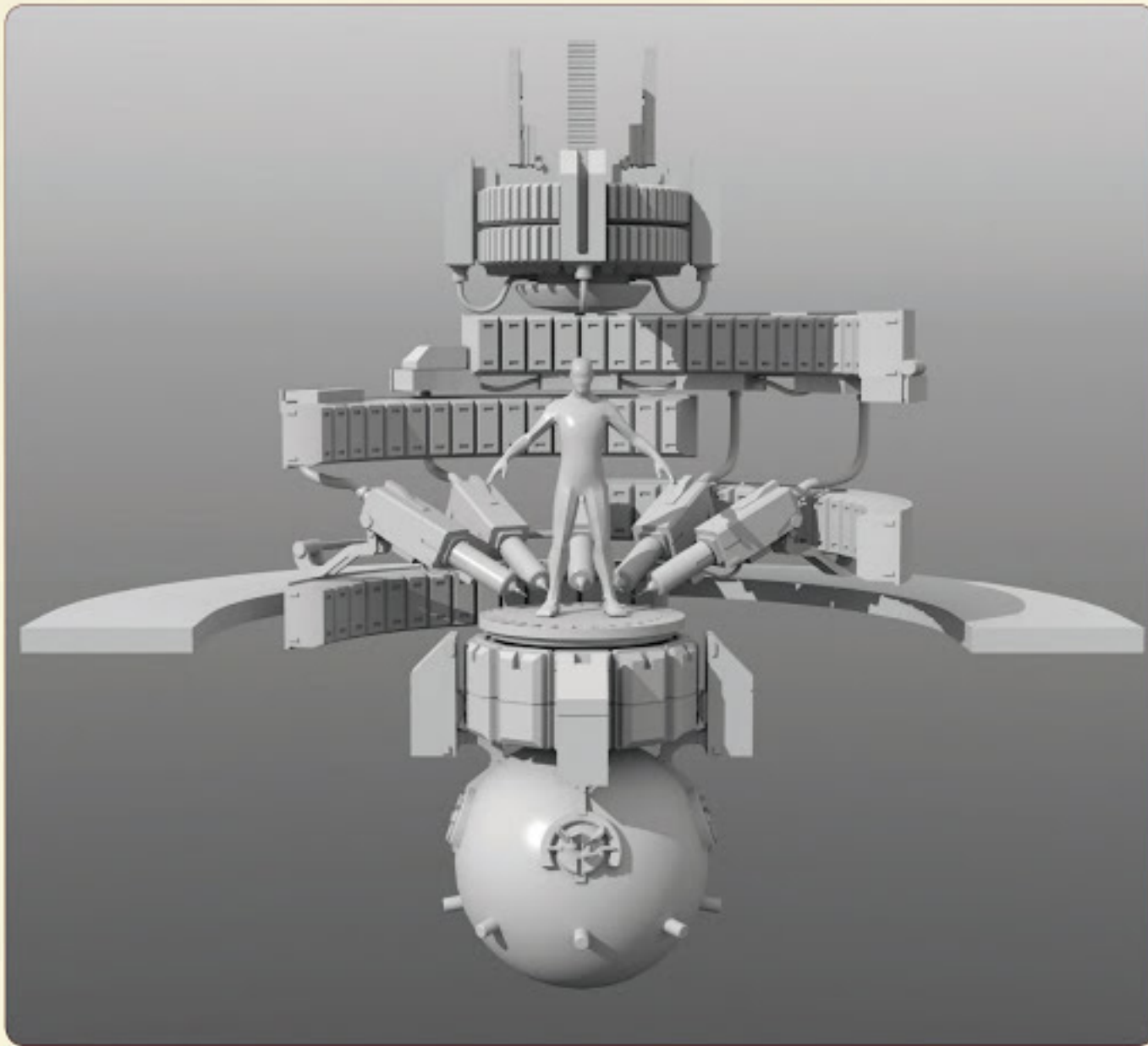


Fig. E.1

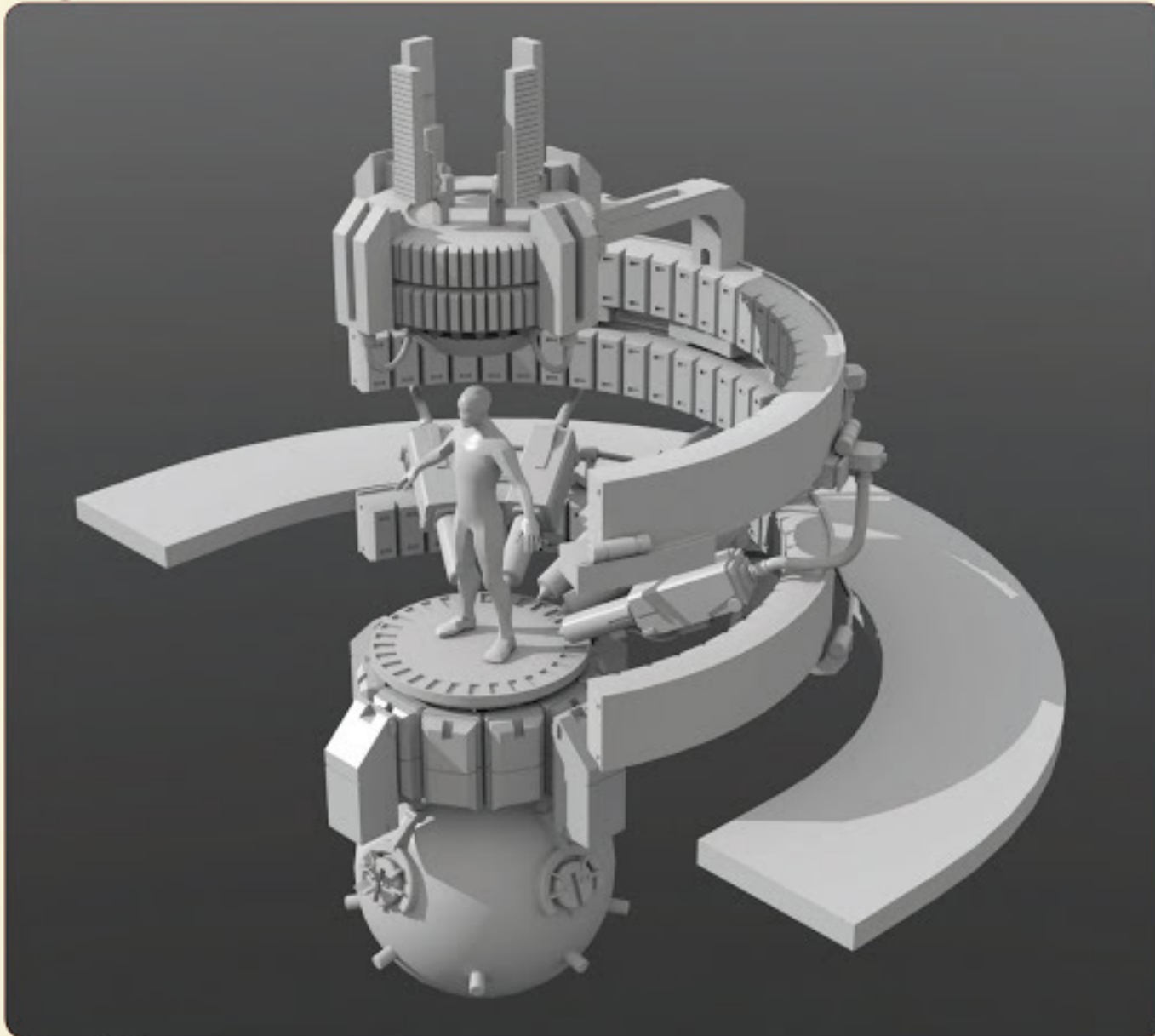


Fig. E.2

■ CHUNG

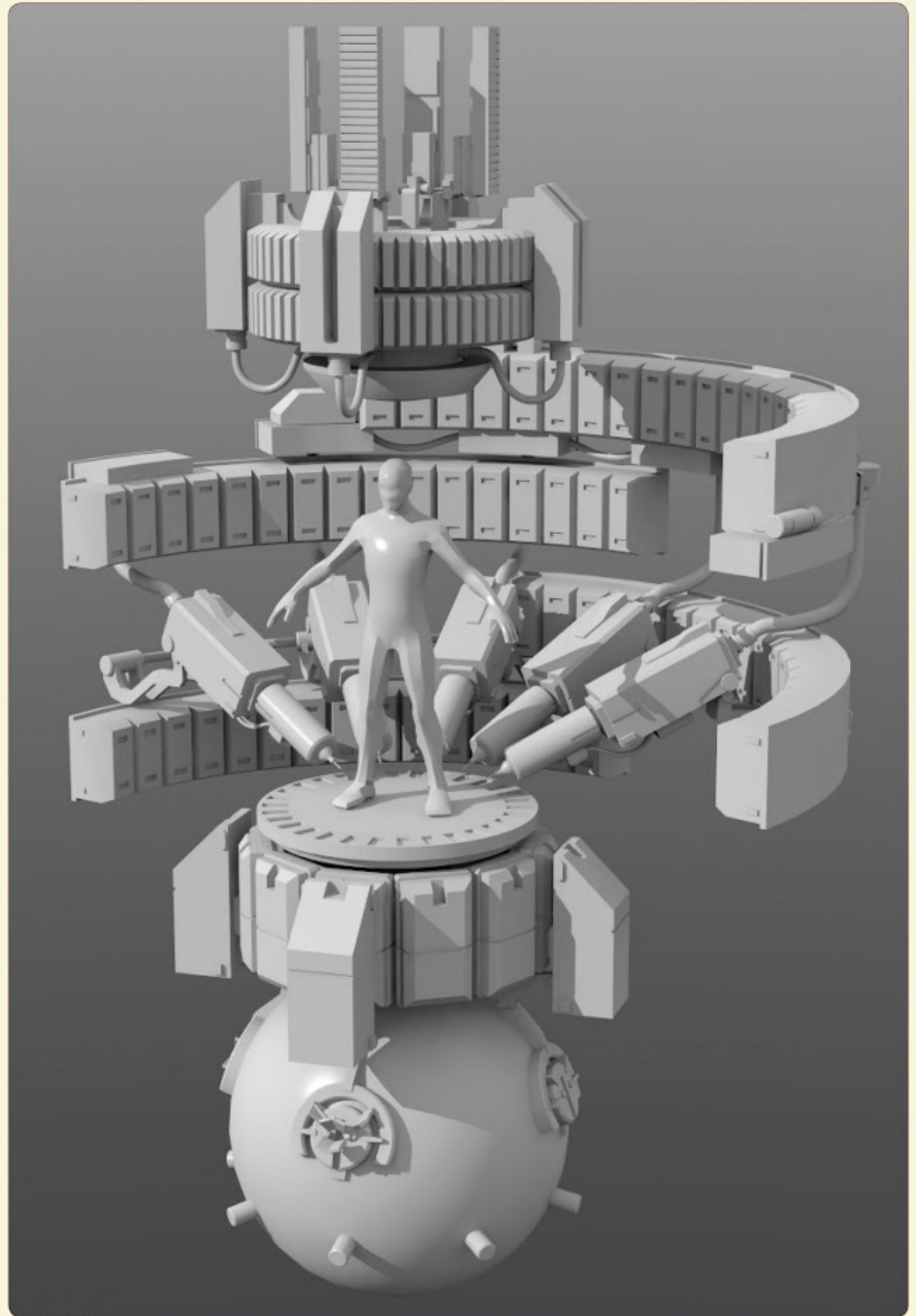


Fig. E.3

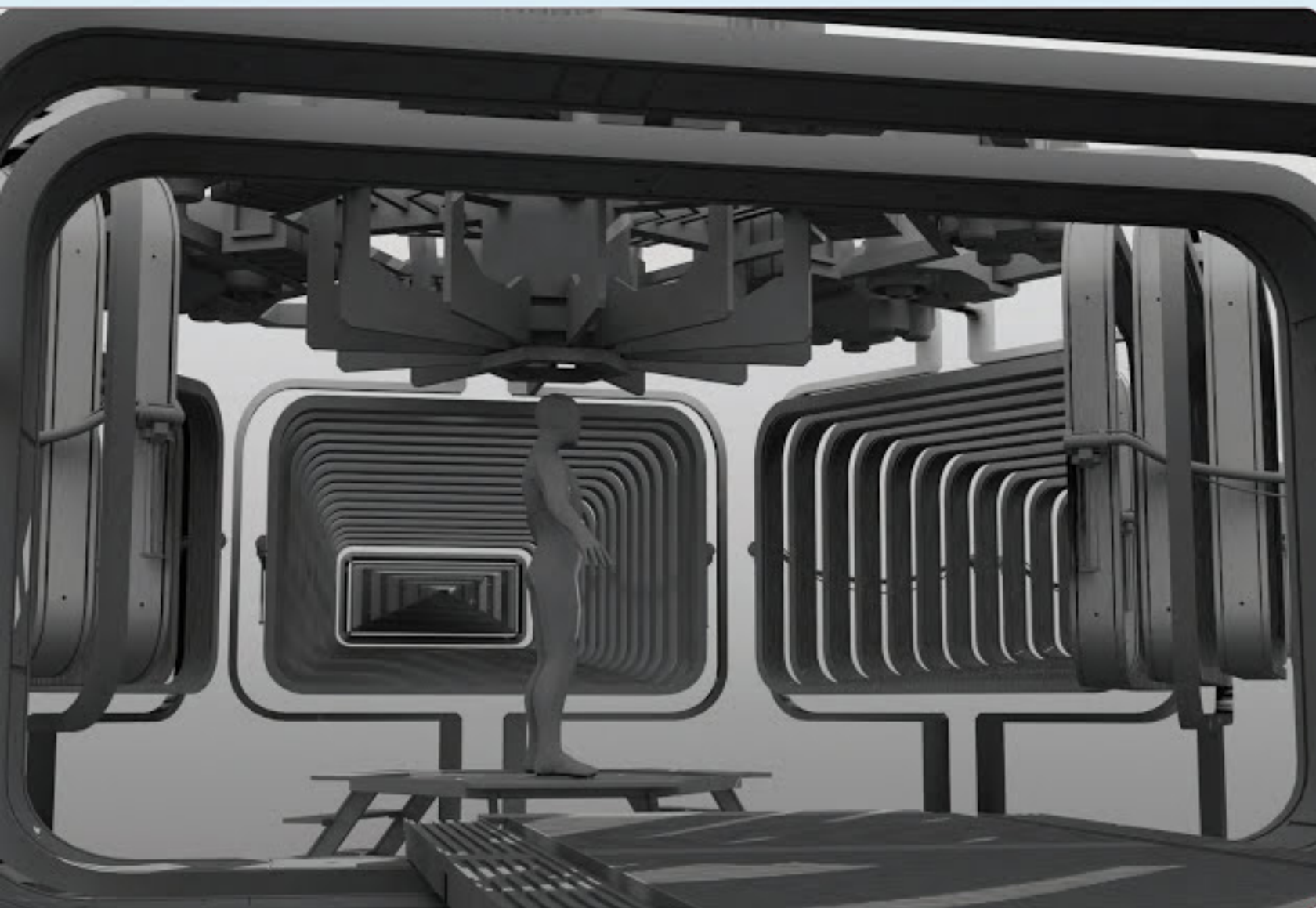


Fig. F.1

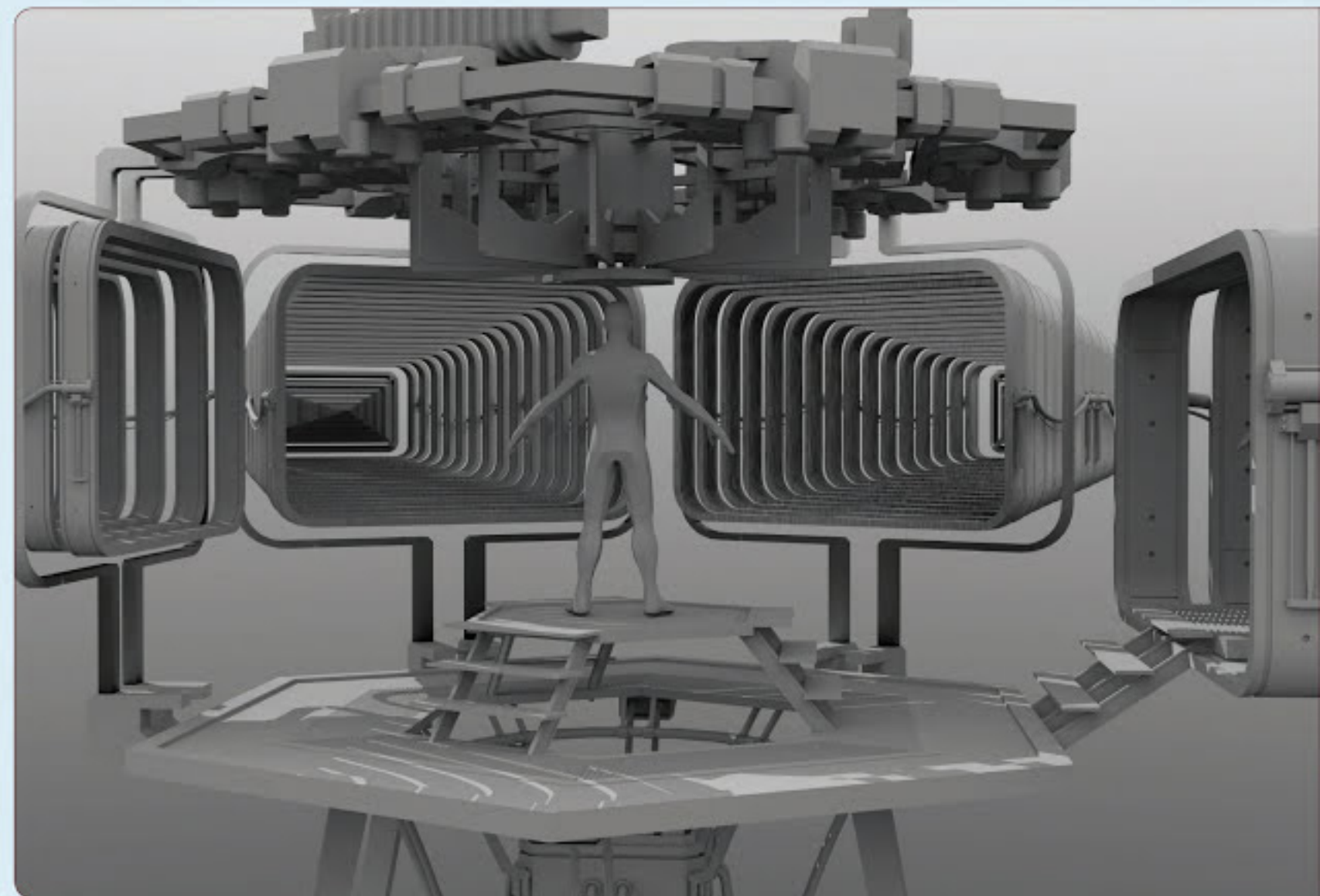


Fig. F.2

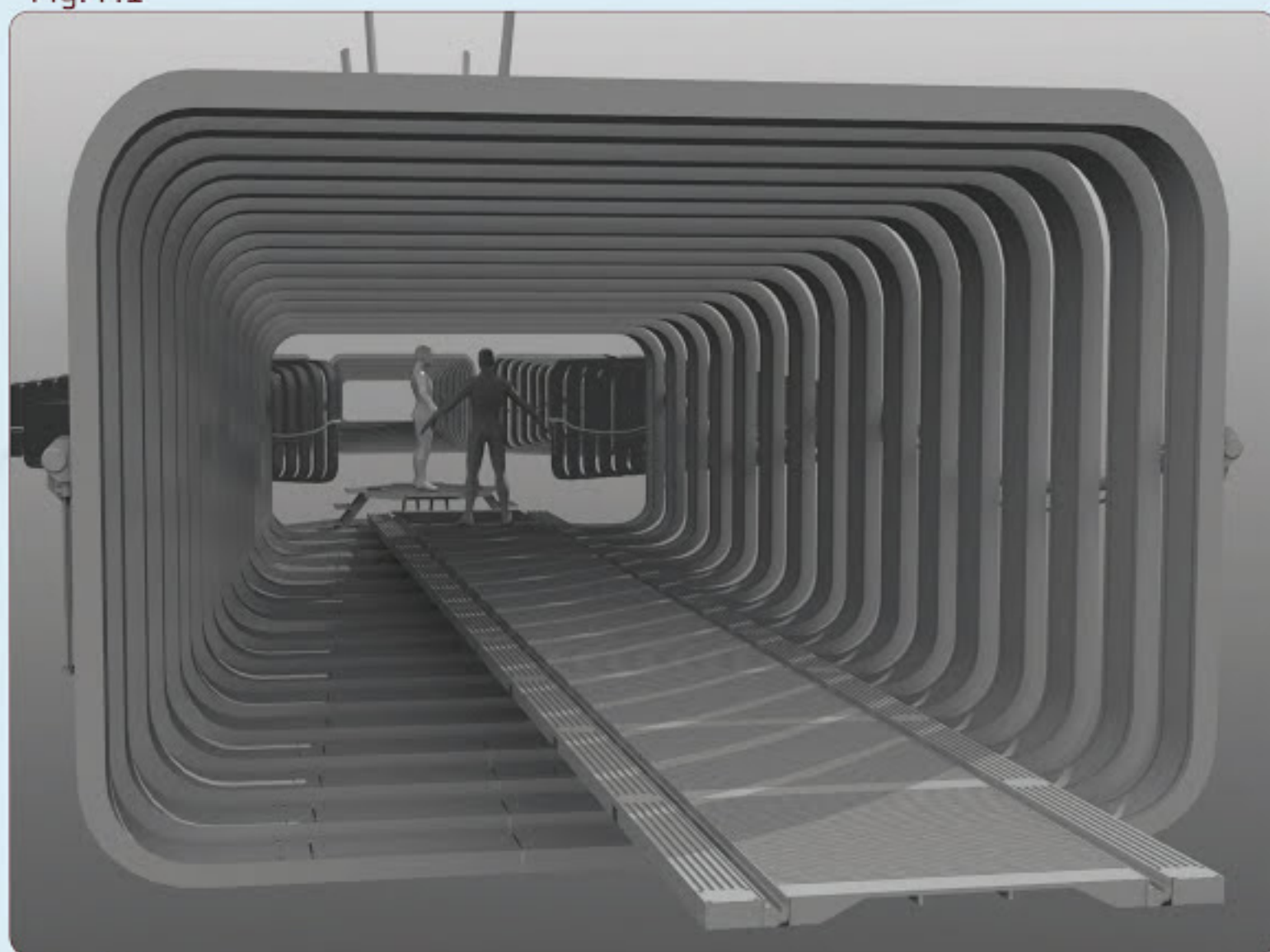


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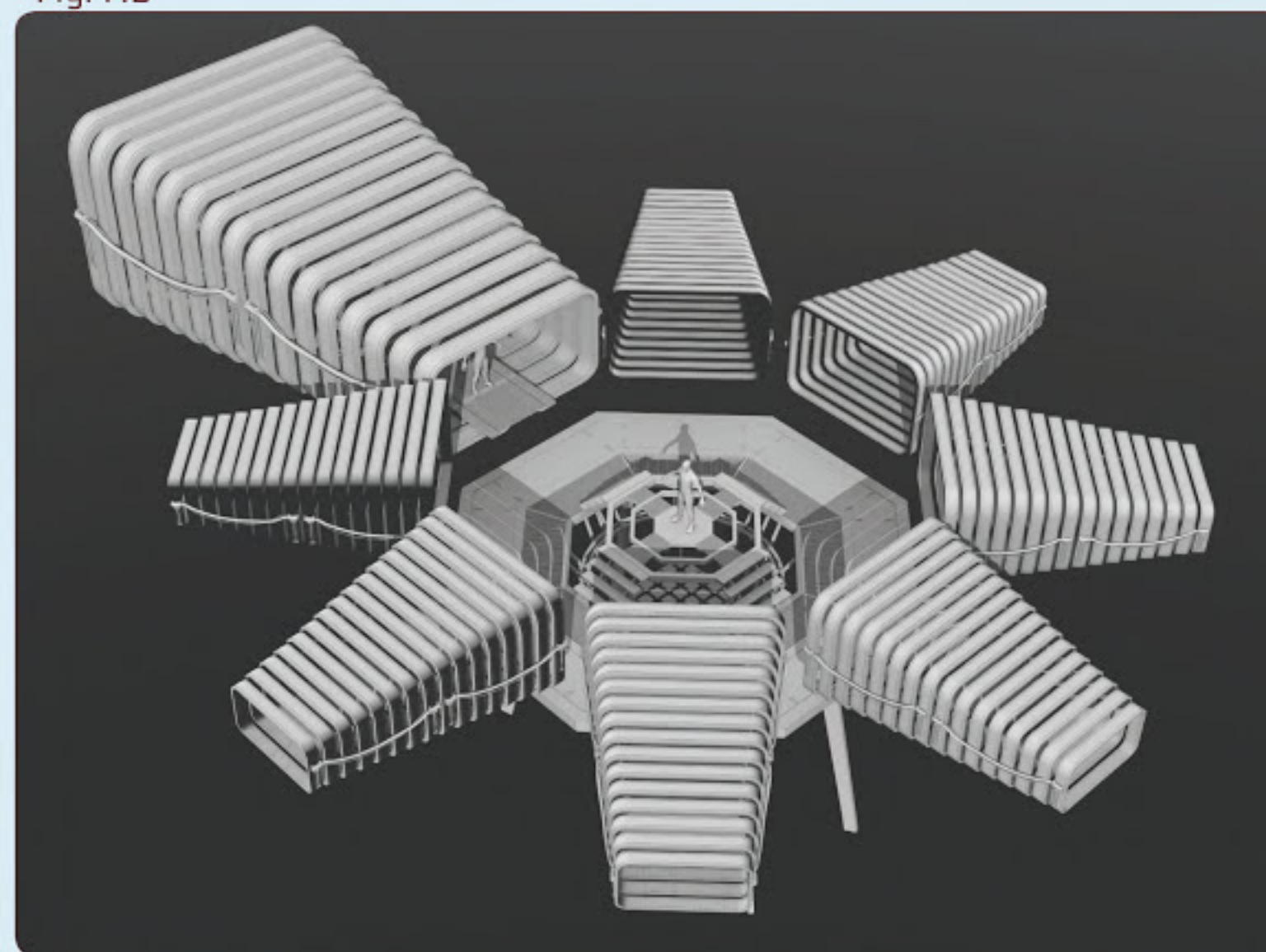


Fig. F.4

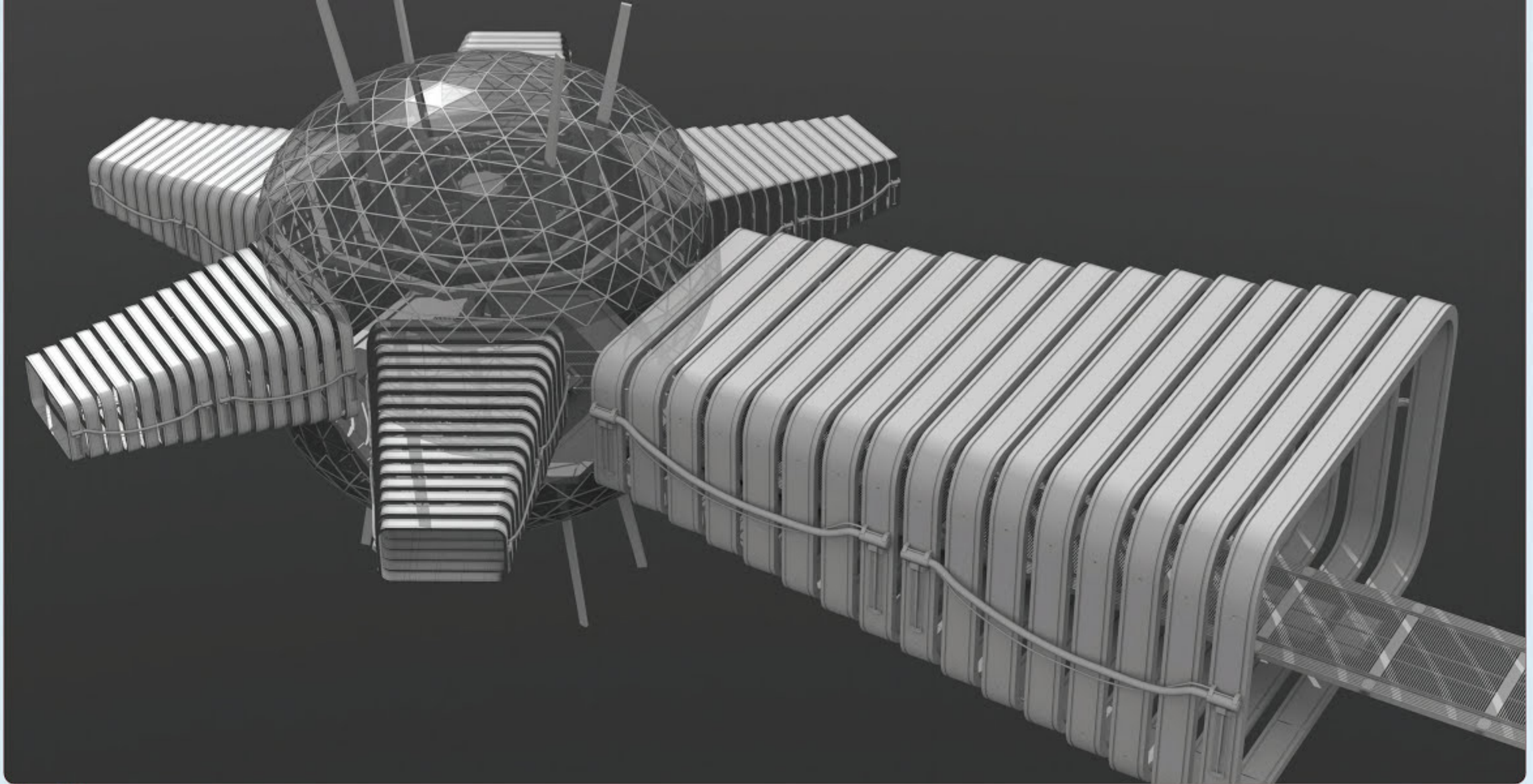


Fig. G.1

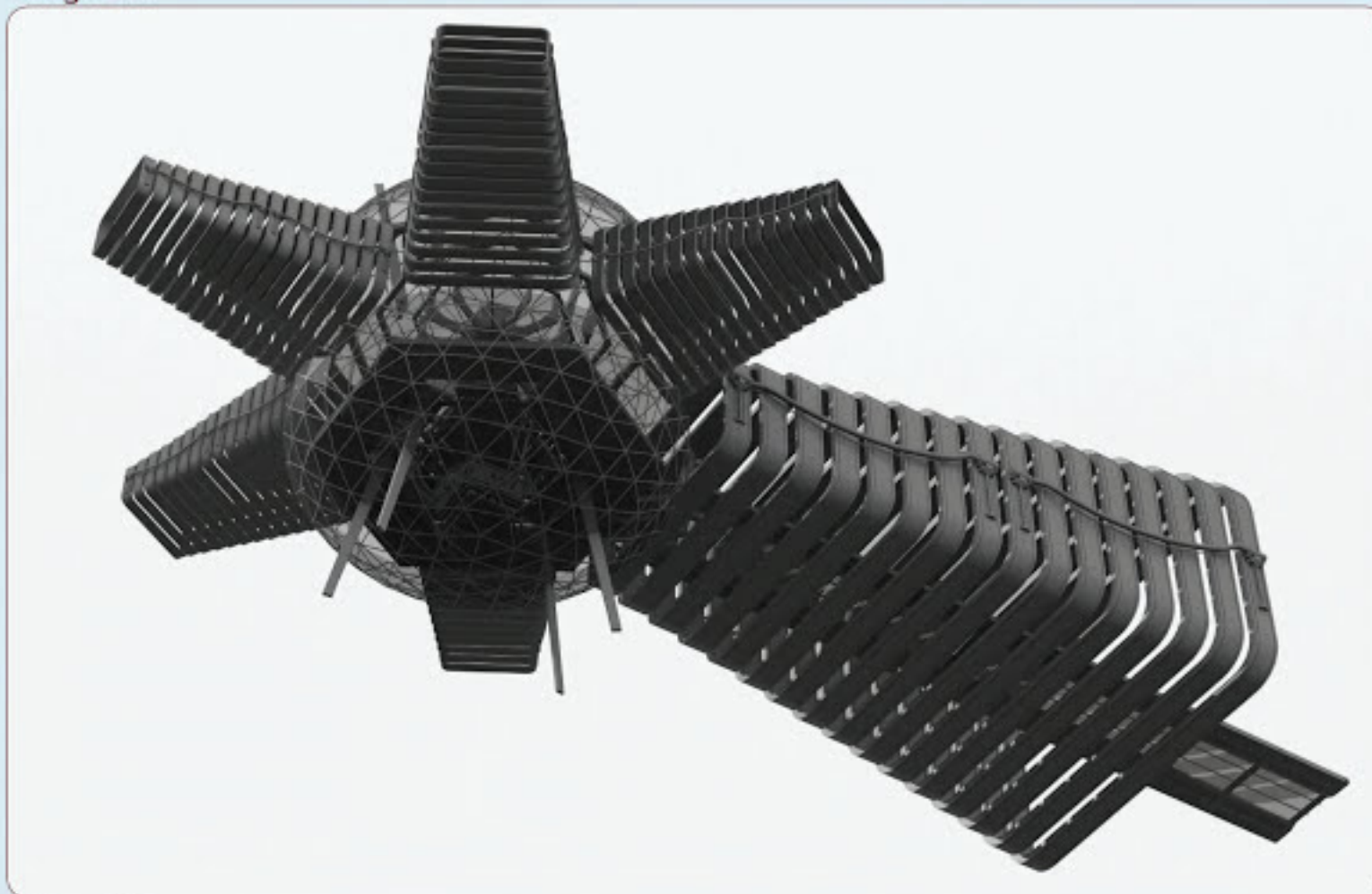


Fig. G.2



Fig. G.3

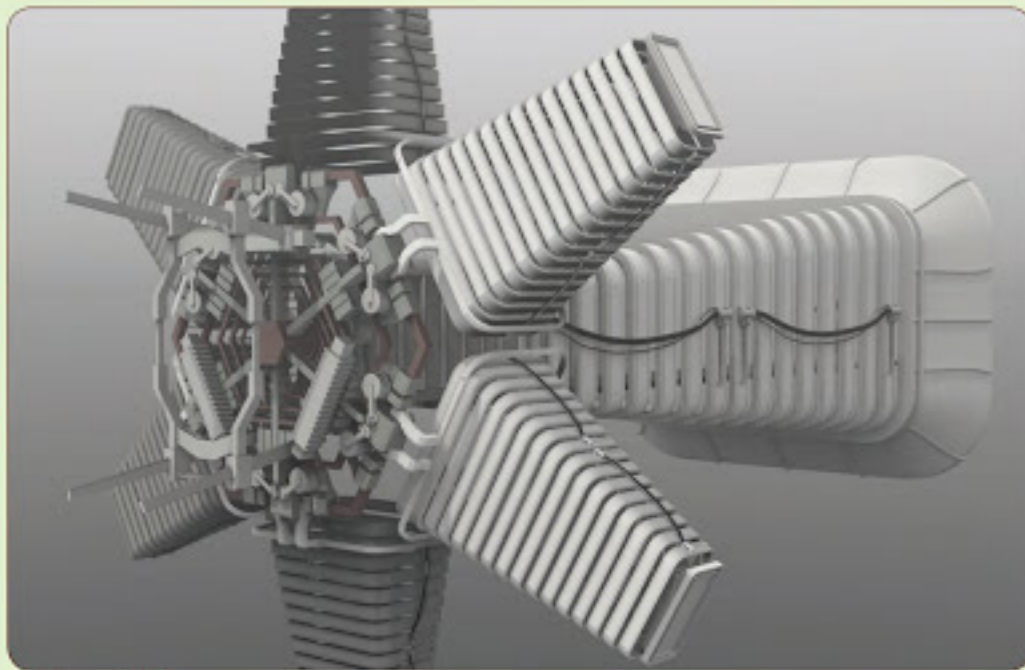


Fig. H.1

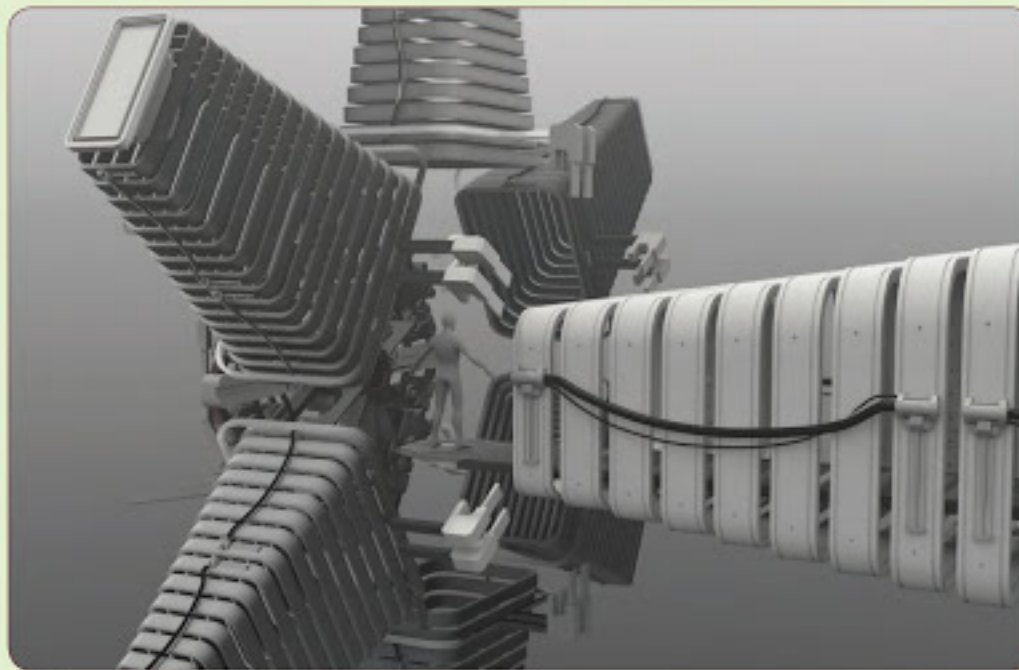


Fig. H.2

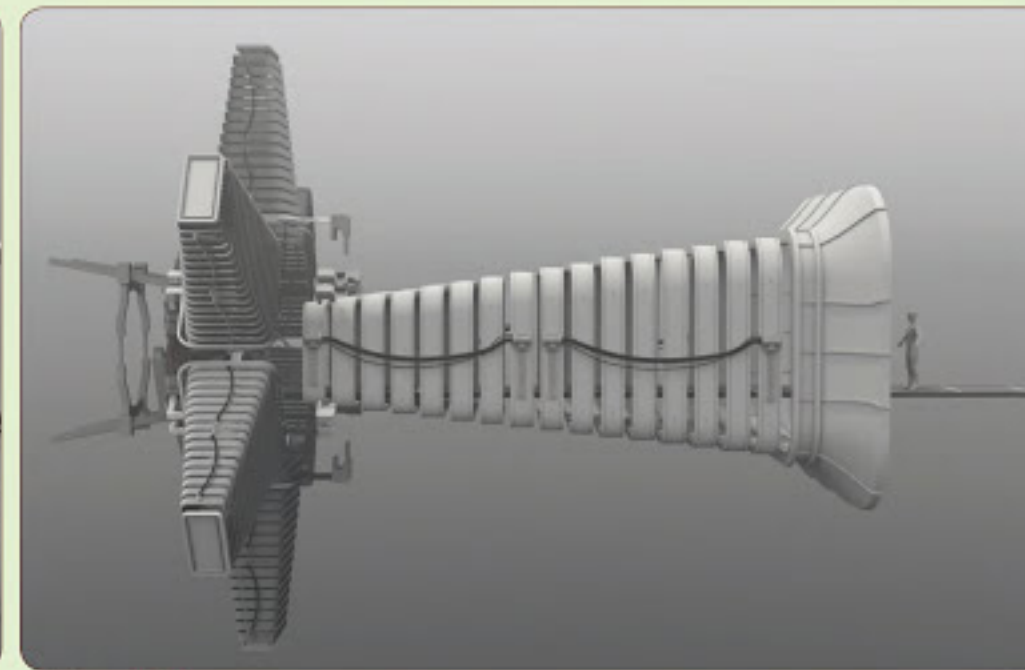


Fig. H.3

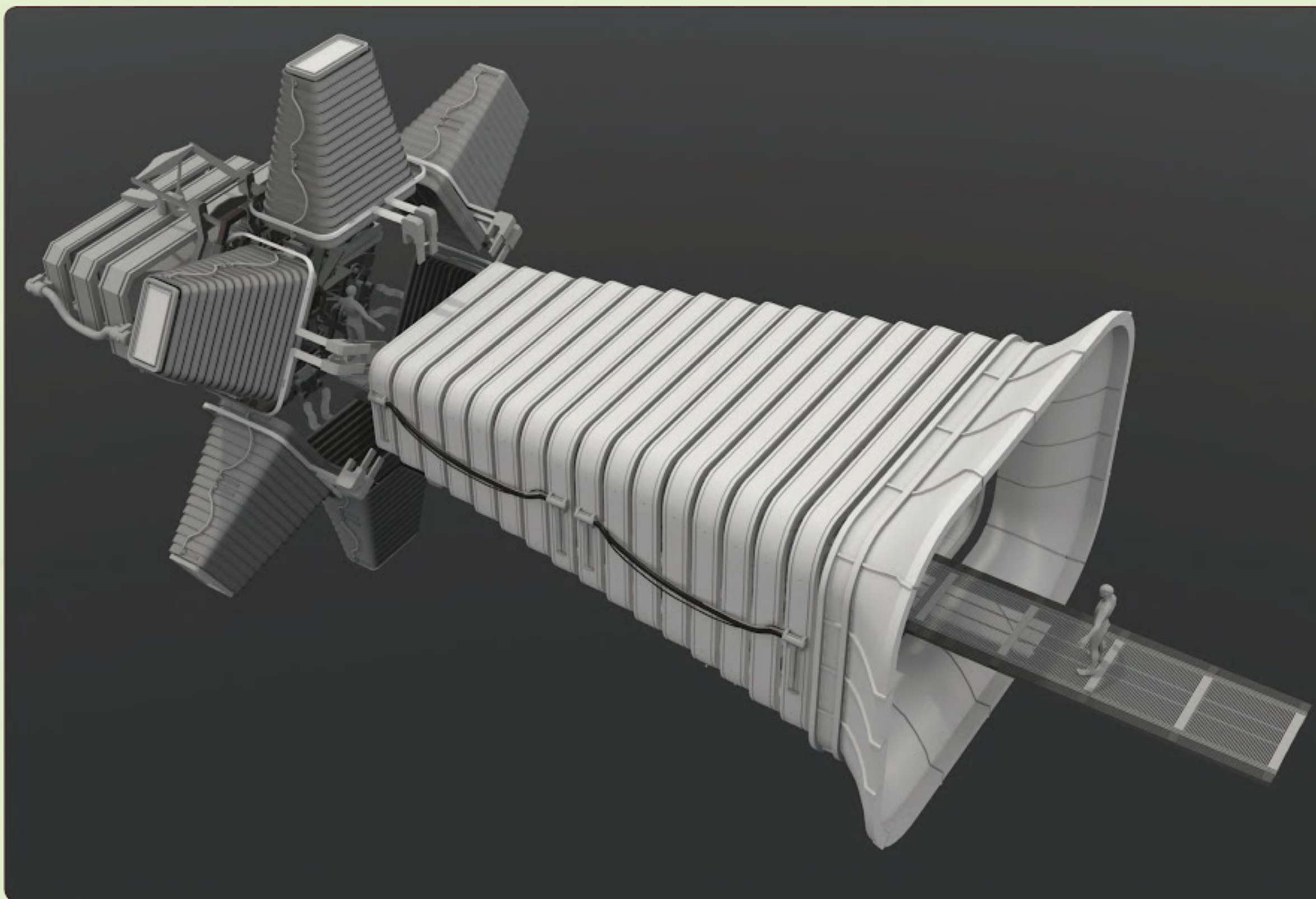


Fig. H.4

NOT ONLY IS the Quantum Tunnel key in the quest to find Janet, but building it has brought Hank and Hope closer together. "In the first film, there was a divide between father and daughter, and it put a strain on their relationship," Stephen Broussard says. "It was all tied up in Janet being missing and how that fractured the family. In this film, when it opens, they're united in that search for her, so they put a lot of their disagreements behind them. They're on this very intense mission that they understand is finite: If they don't find Janet soon, the opportunity to find her could go away. And it's fun to see them united after being fractured for the first film. Of course, the circumstances of this film—of Scott being estranged from them, of them being on the run, of maybe not being able to find Janet at all—put their own level of stress across everything, but it was fun for us to explore that dynamic of seeing them in this stress together and not being at each other's throats, and to see that they've evolved from the first film."

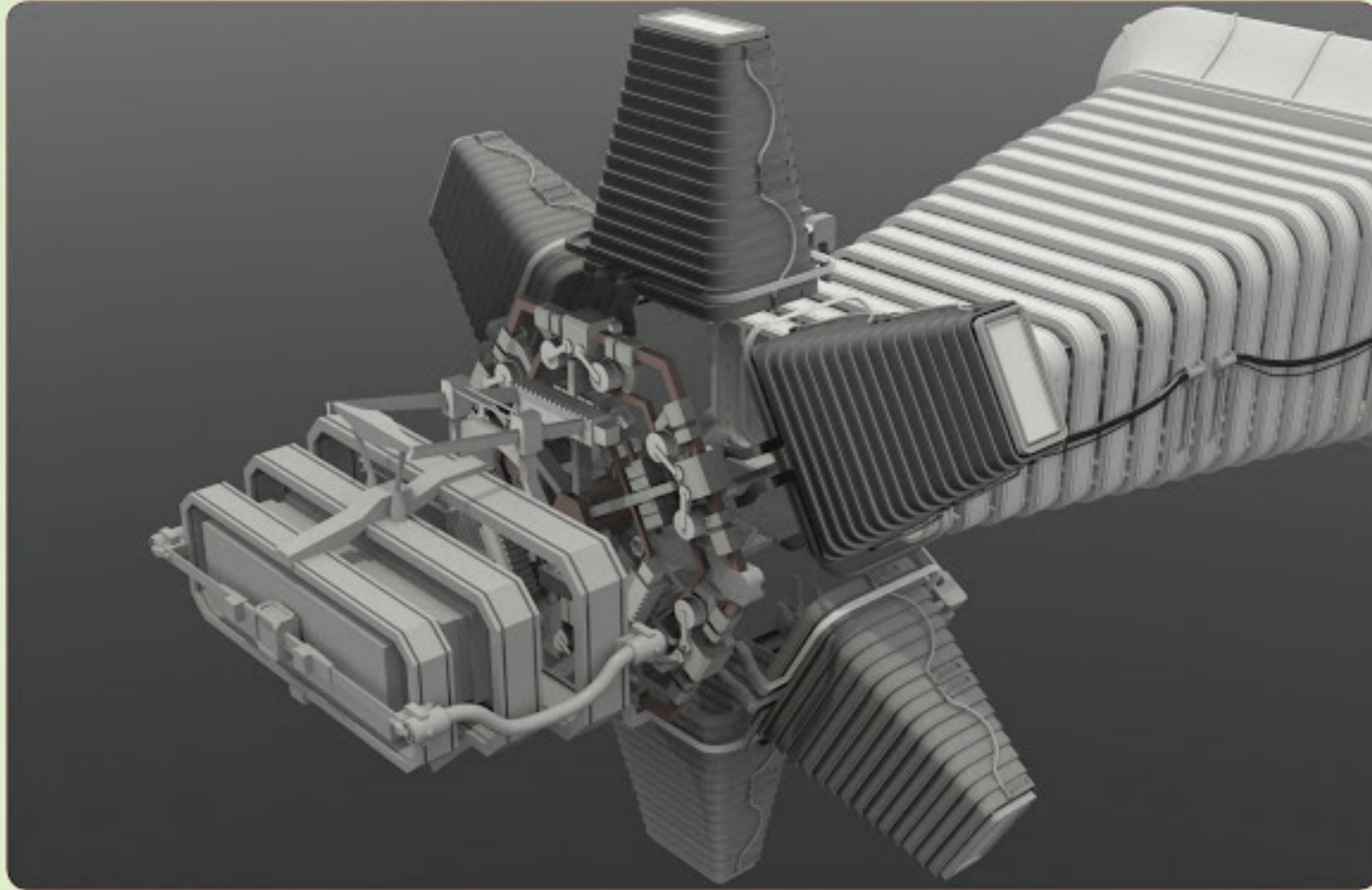


Fig. H.5

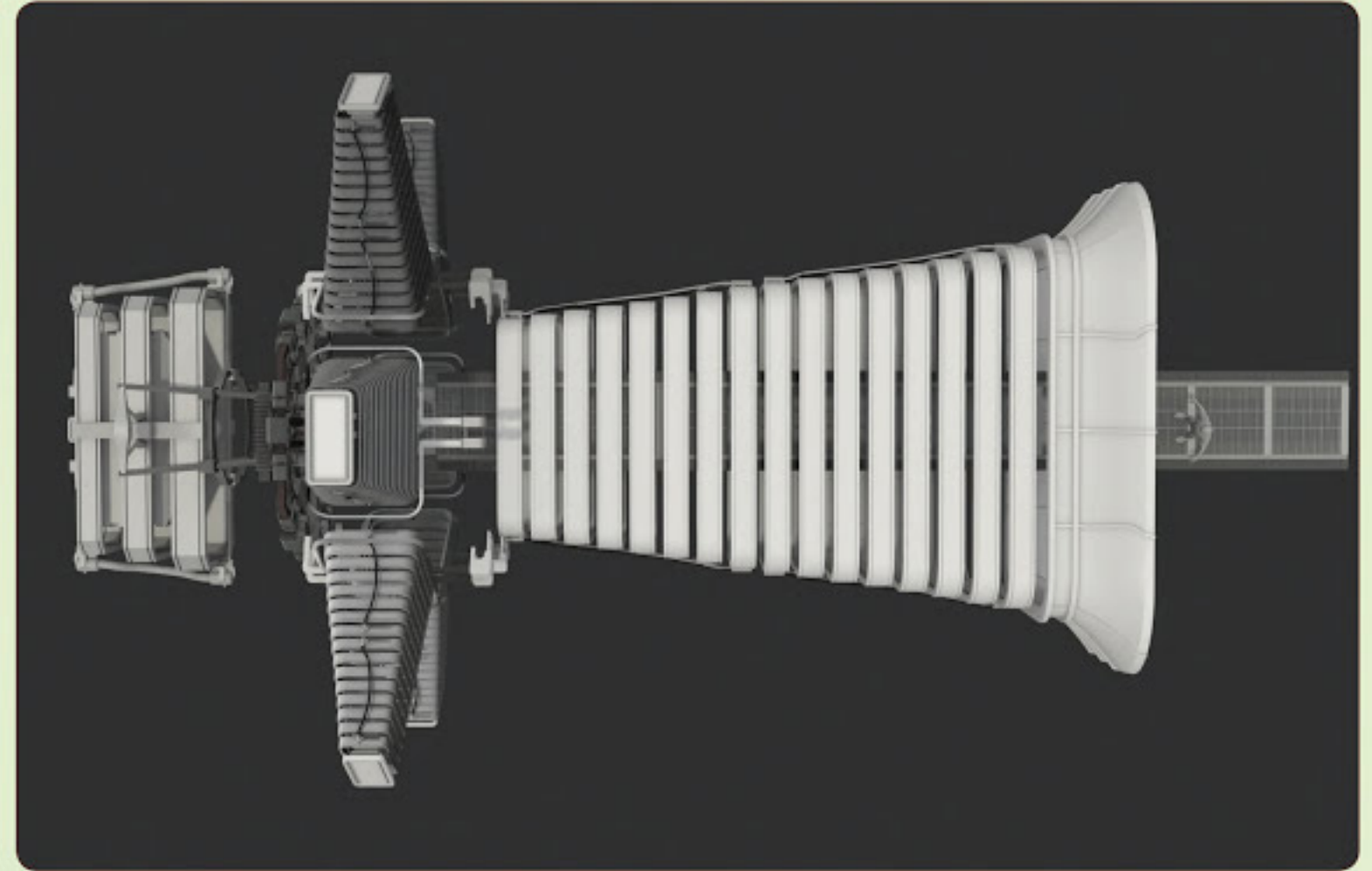


Fig. H.6

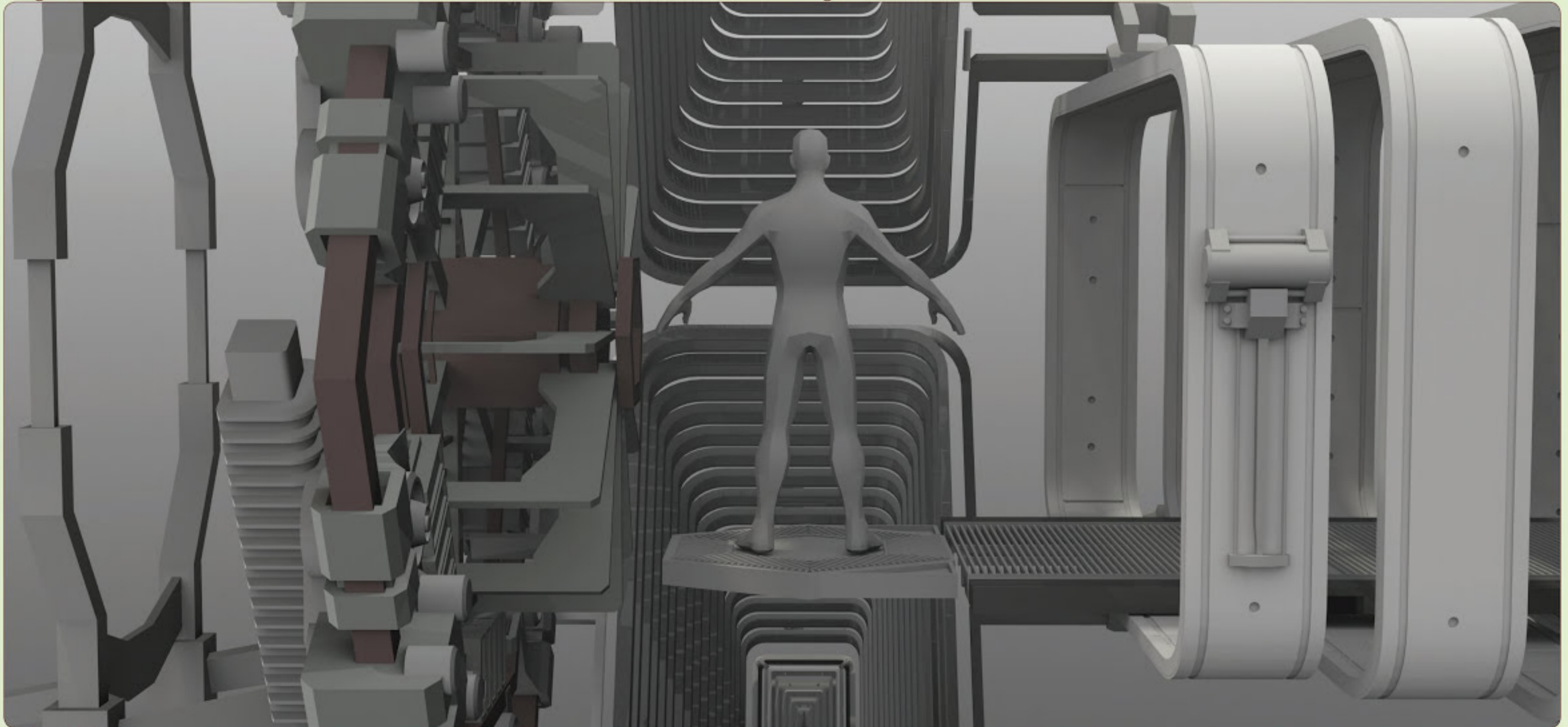
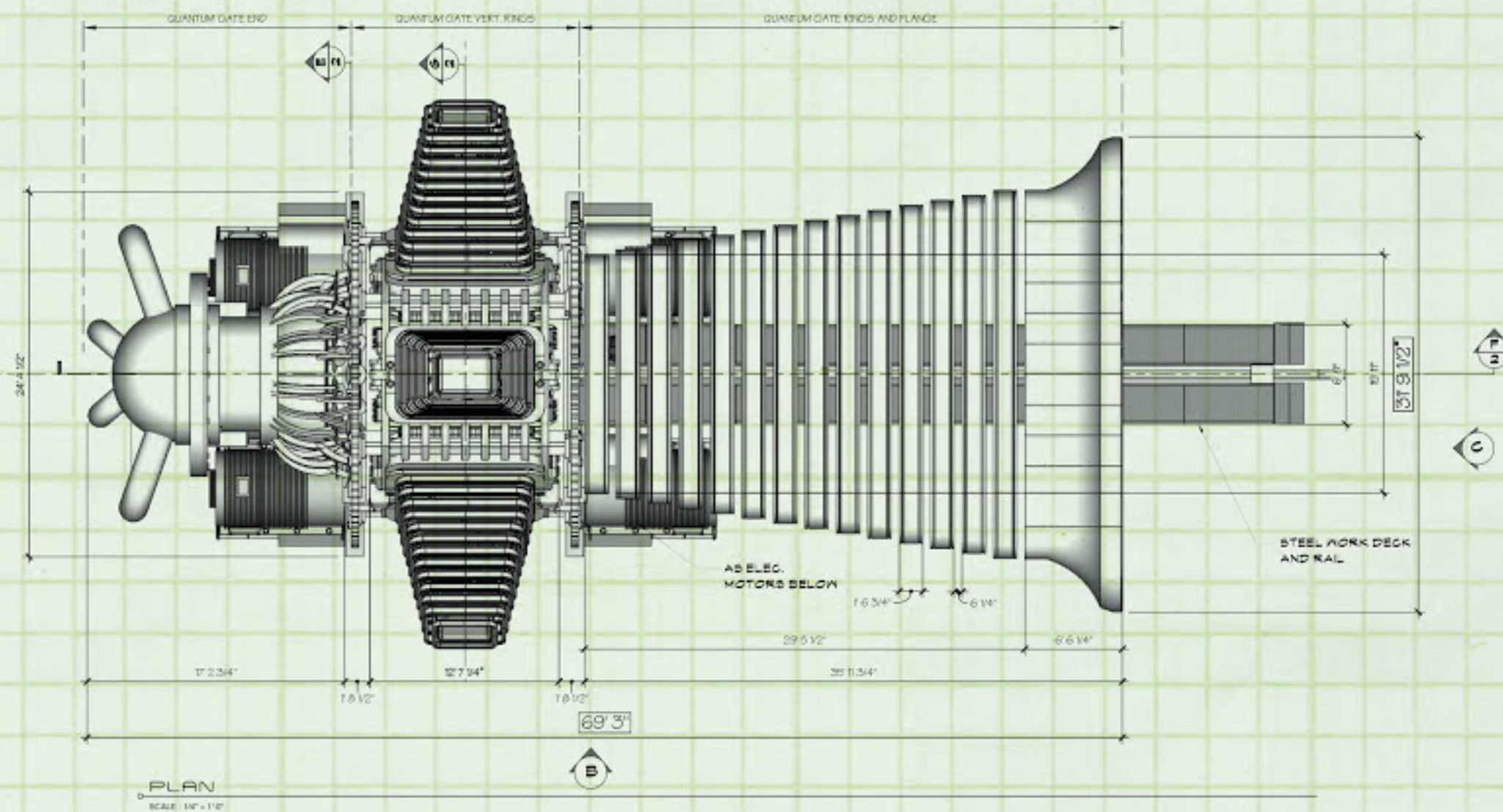
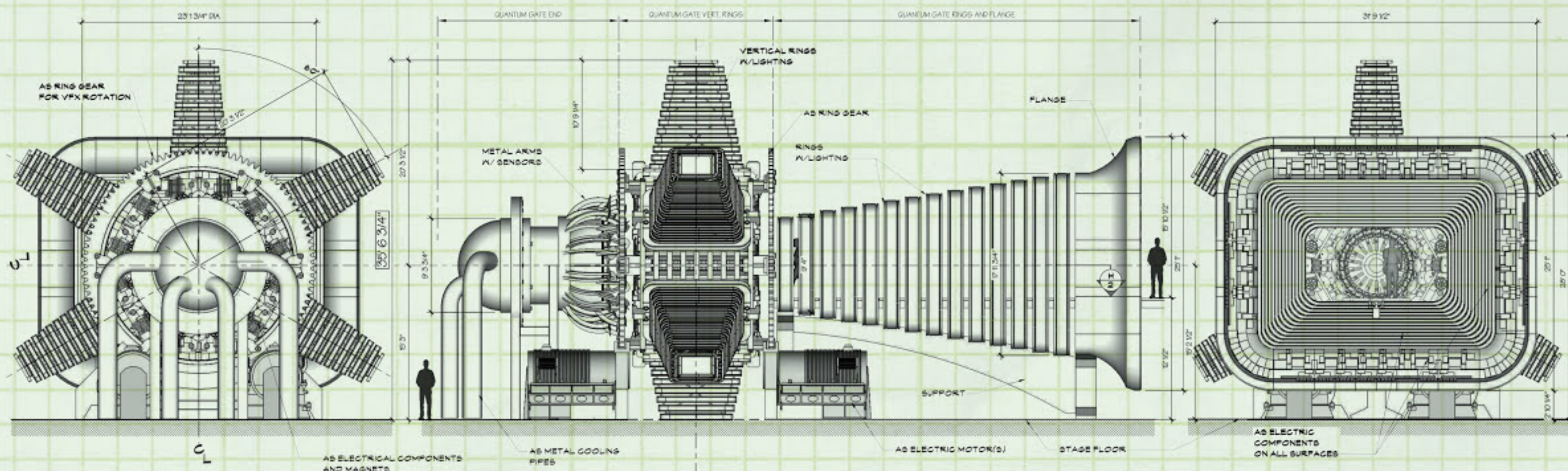
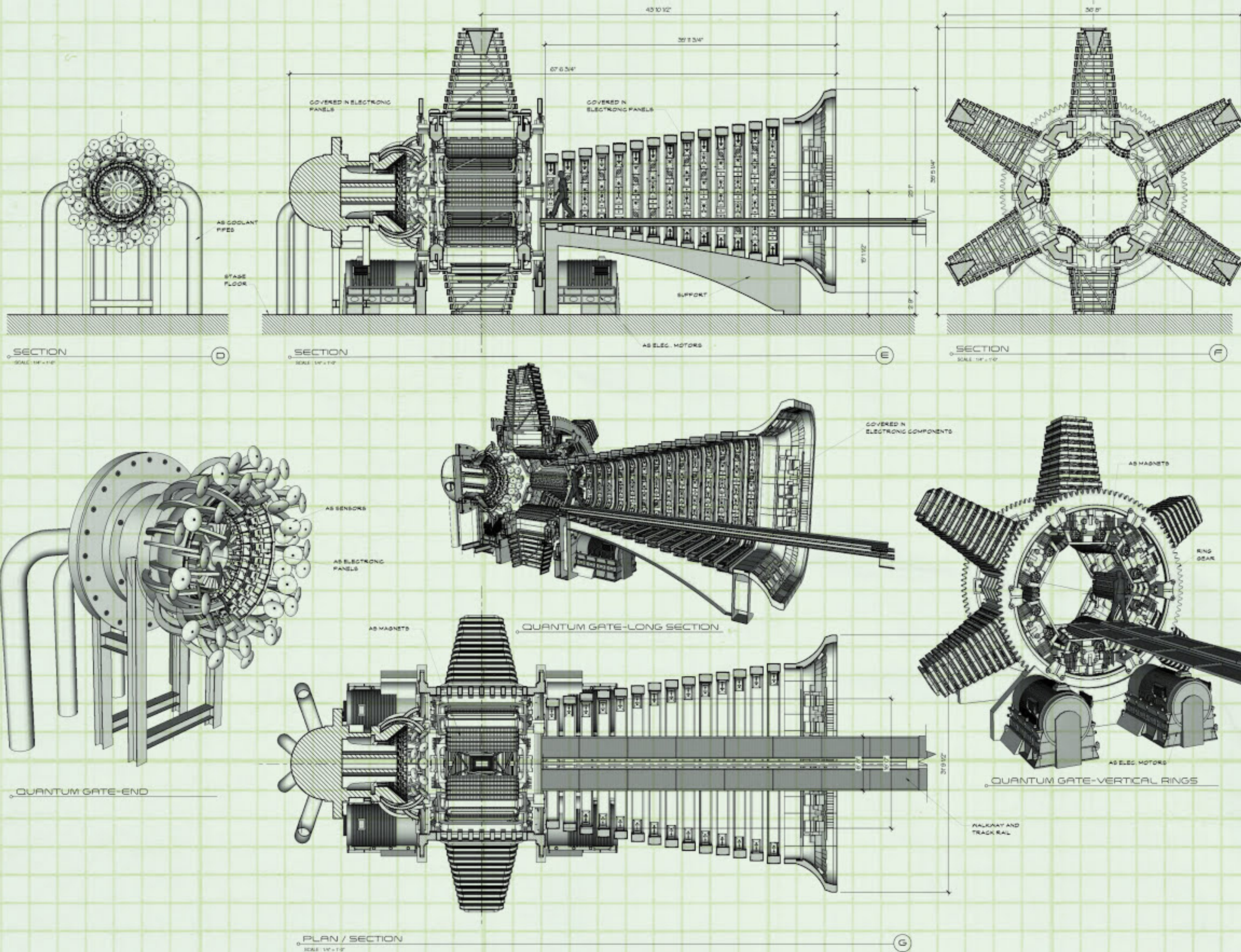
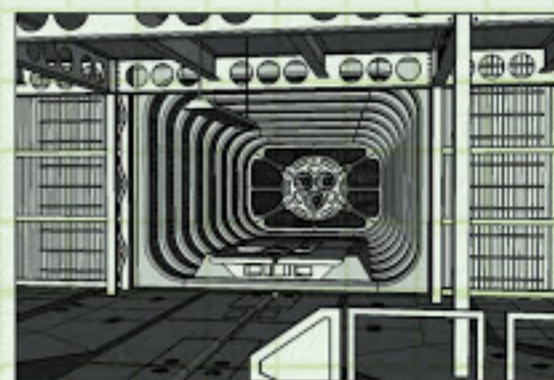
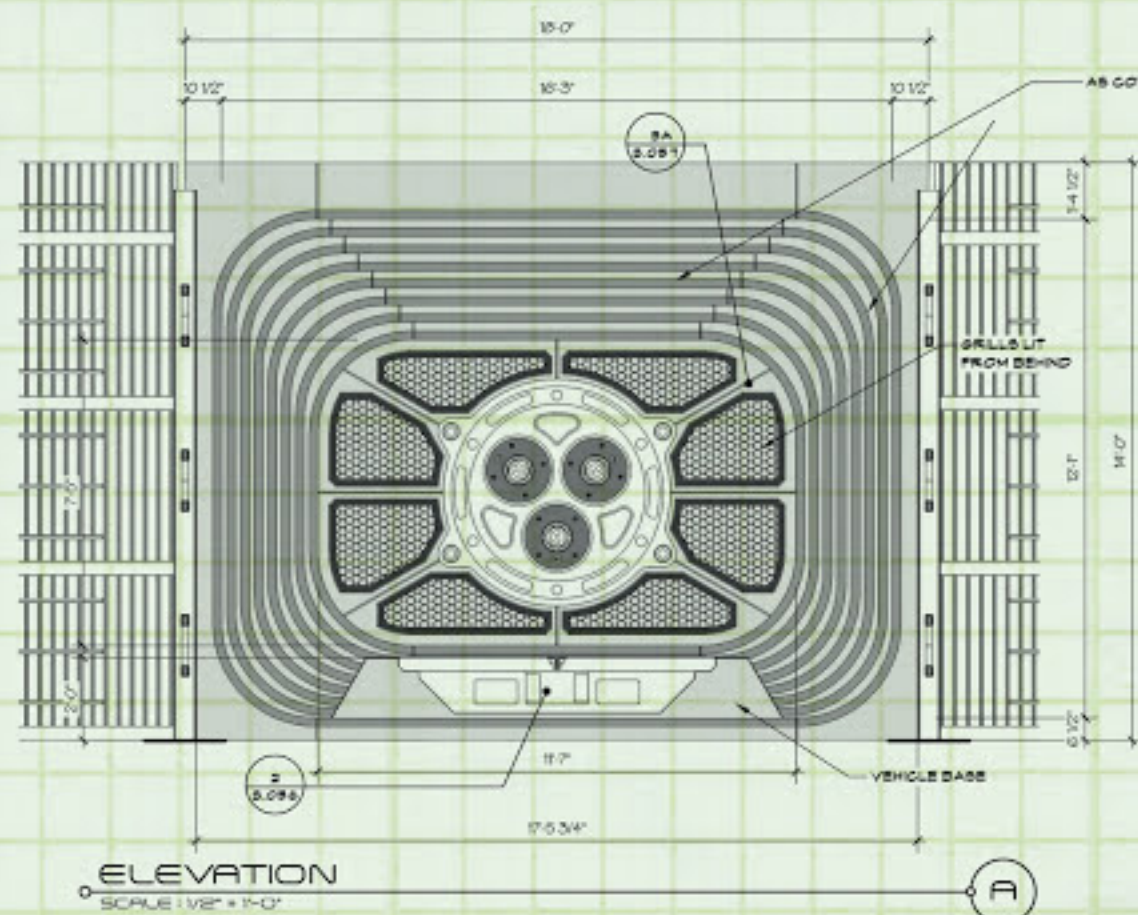


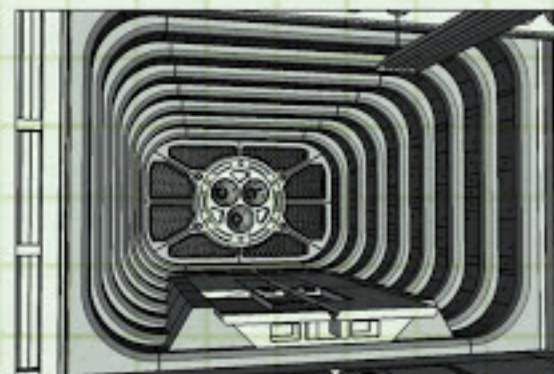
Fig. H.7



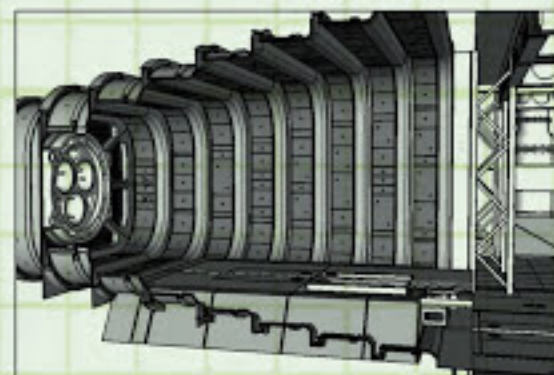




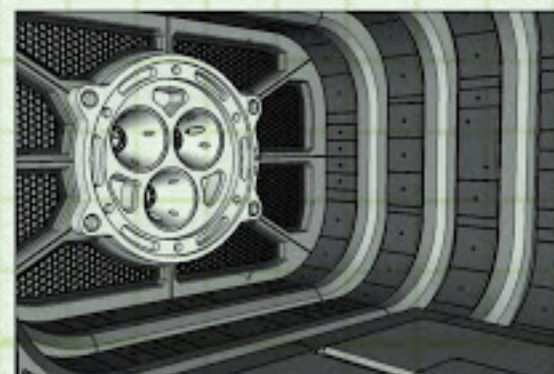
VIEW 1



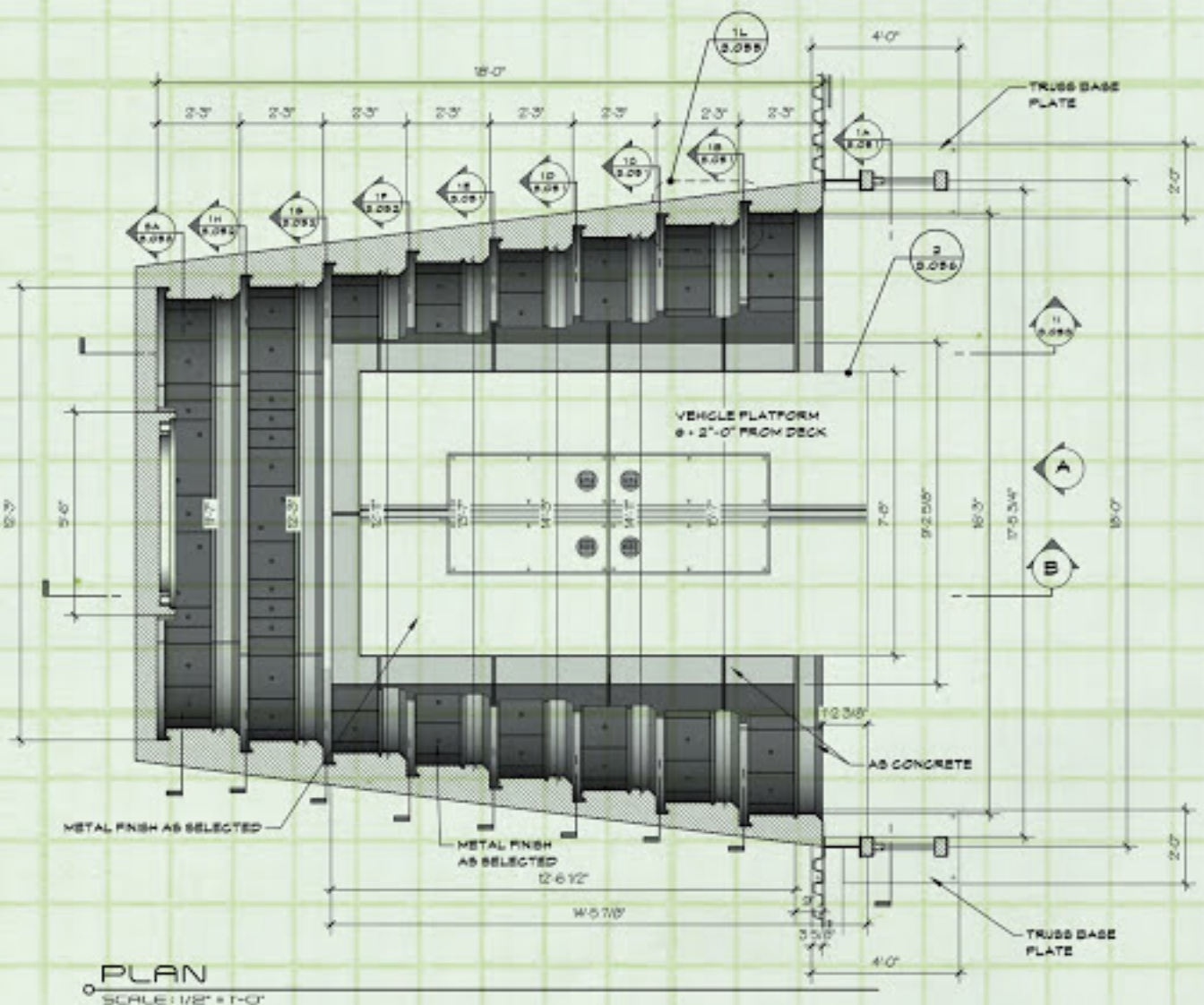
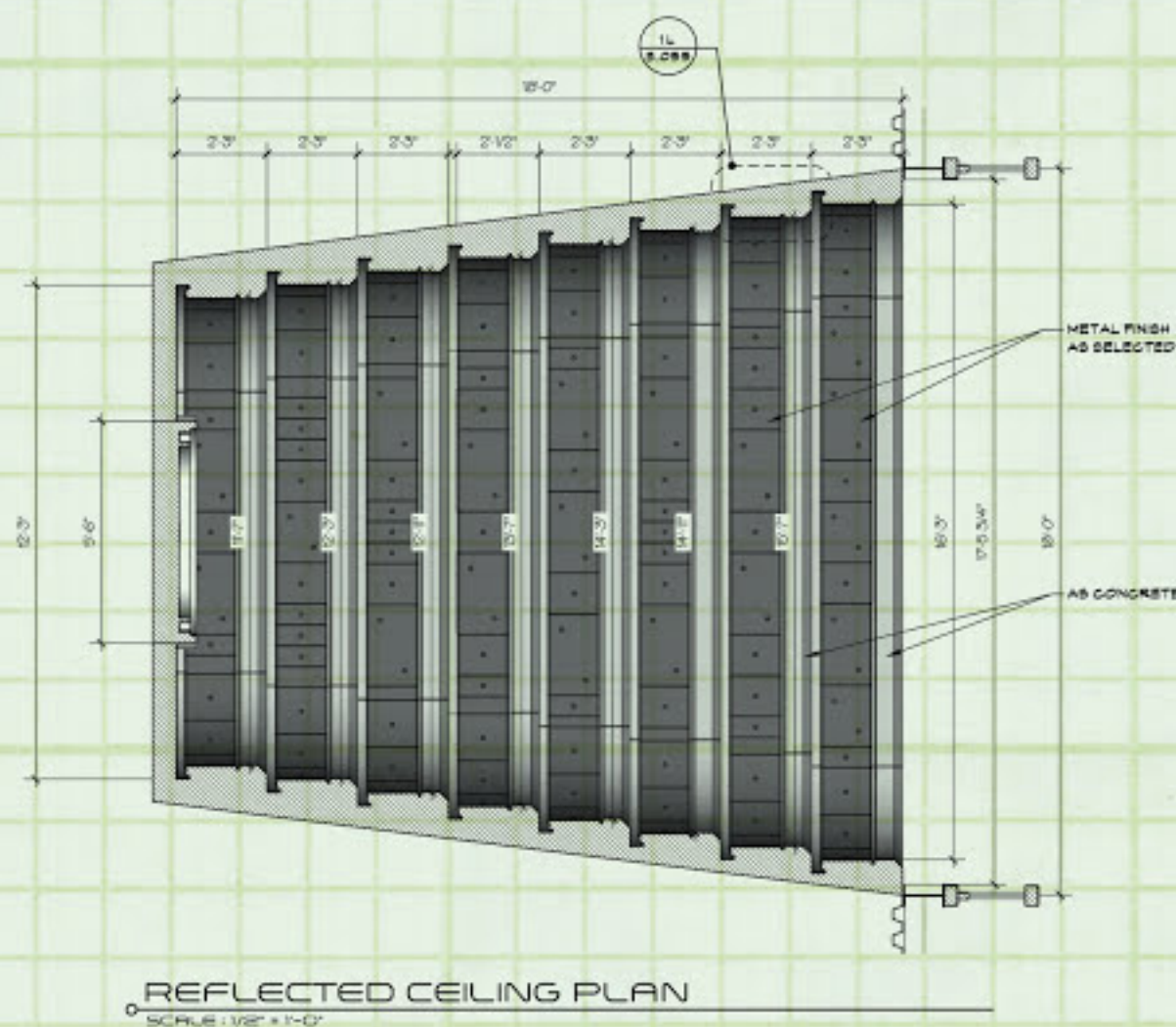
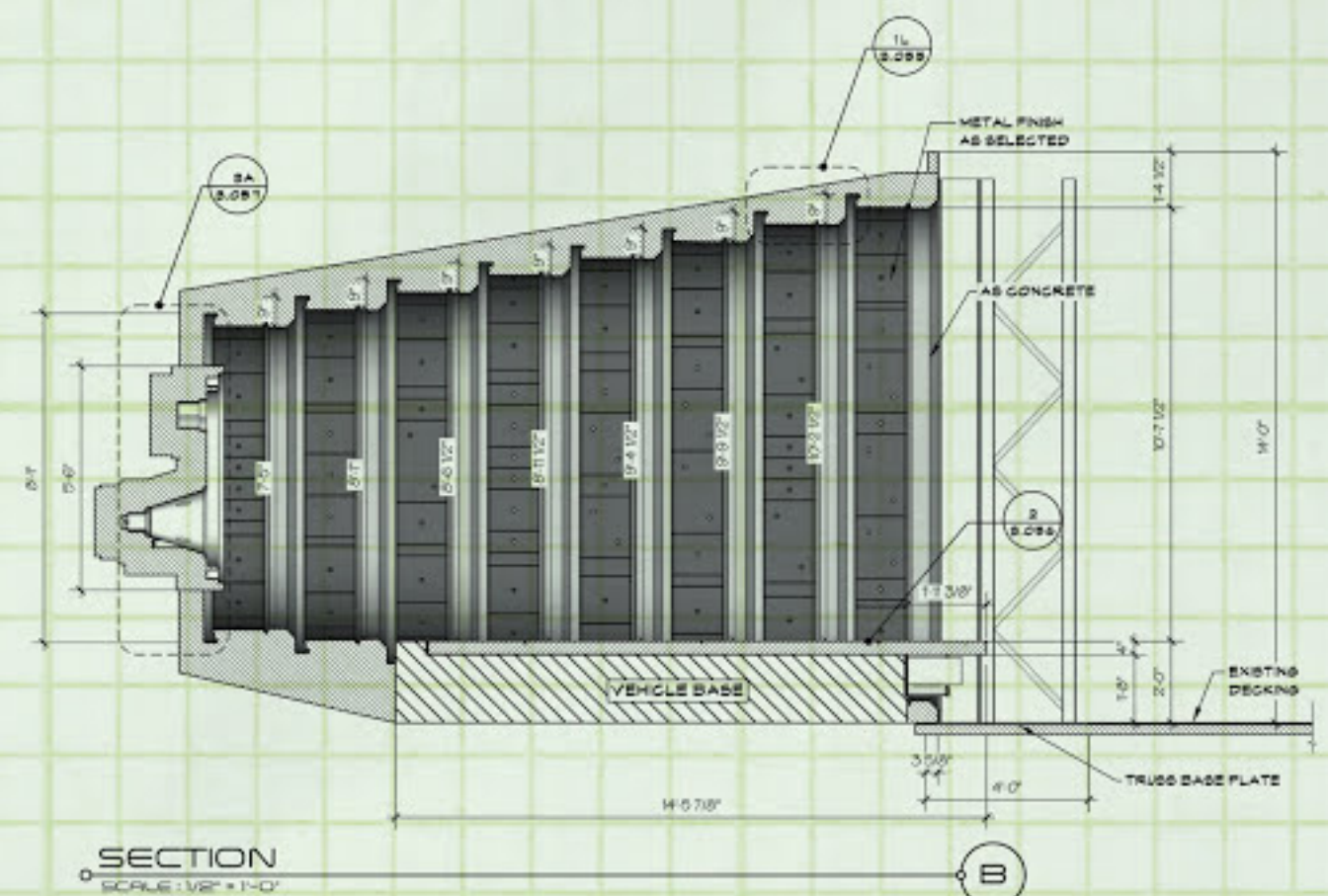
VIEW 2



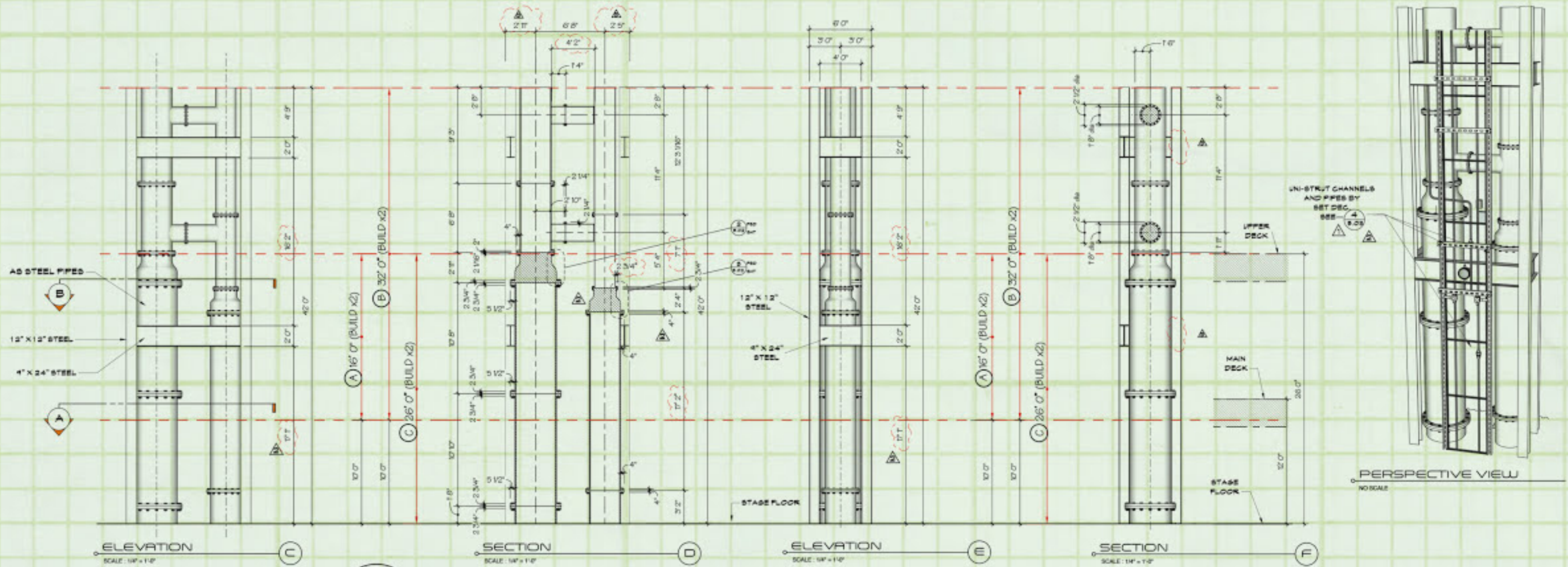
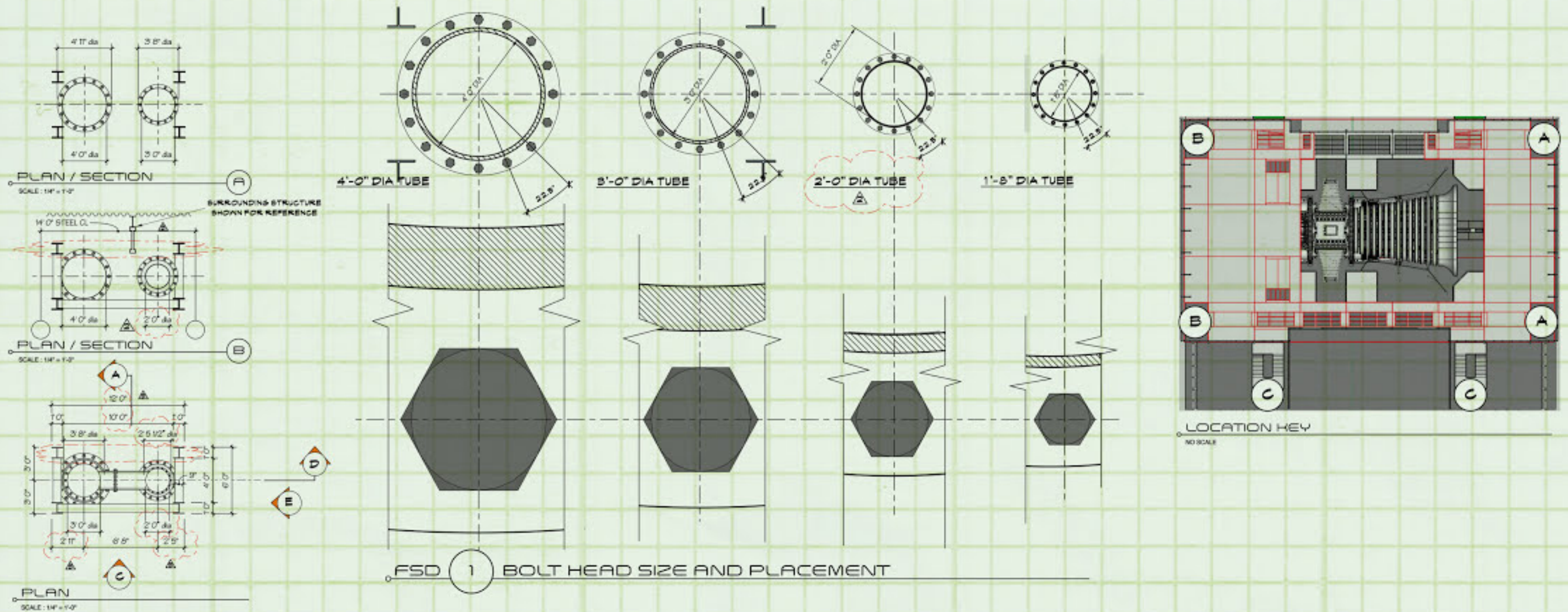
VIEW 3



VIEW 4



DETAIL - QUANTUM VEHICLE ALCOVE SCALE: 1/2" = 1'-0"





QUANTUM SUIT

HANK PYM LOG ENTRY:

Now that the Quantum Tunnel is nearing completion, I'm starting to think about what I'll need when I travel to the Quantum Realm. Based on what Scott has told me, I think I should create a new suit for the occasion. I honestly have no idea what to expect when I arrive there, but I should be prepared for anything. — **H.P.**





"Designing Hank's Quantum Suit was interesting because I had to work within the established Ant-Man language," Concept Artist Jackson Sze says. "I imagine the suit would be quite similar to the Ant-Man suit that he has designed for himself and for Scott. It was about taking that language—the red panels, the red patches—and basically giving it a modern makeover. I also thought about how the Quantum

Realm could be a pretty harsh environment, similar to what an astronaut would face when exploring space, so it definitely has an astronaut feel to it. I knew I should think about making it airtight. He'd be sealed in the suit for safety, but also there would be some functionality like where his backpack might be, where the tech is contained for him to shrink and survive in that environment."



"As far as the helmet goes, I was definitely looking at a lot of astronaut helmets, but giving it an Ant-Man spin—most notably the red visor and the mandible mouthpiece, which has a pretty signature Ant-Man form language," Sze says. "It was important that it was included in his helmet to keep it distinct from every other space suit we've seen."



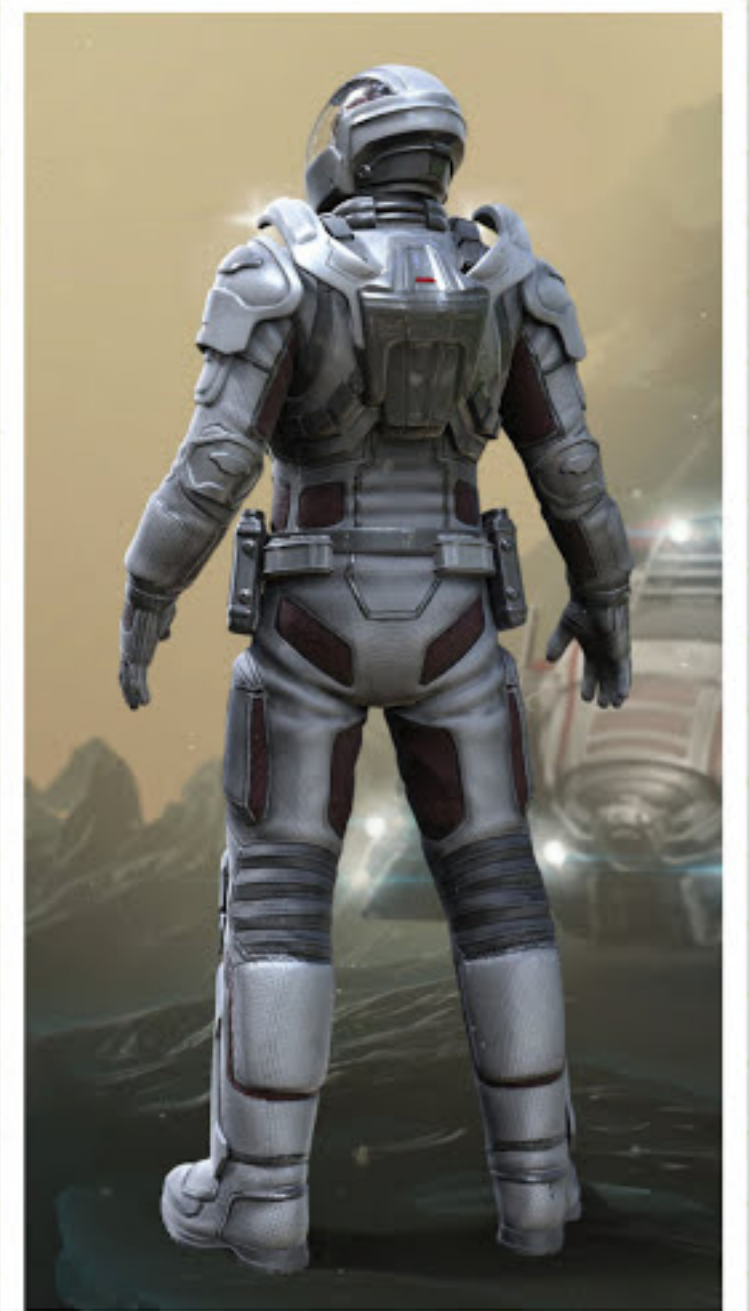
PYM TECHNOLOGIES

◀ SIZE ▲ KUTSCHE



Being able to travel to the Quantum Realm and bring back Janet back has been Hank's singular purpose since *Ant-Man*. "At the end of the film, Scott finds himself stuck down there, and he's able to come out, and it's the first time Hank has ever been exposed to somebody who could go down there and come back," President of Marvel Studios and Executive Producer Kevin Feige says. "That begins to set in his mind the idea that maybe he can go get Hope's mother back. So again, the family unit is continuing that storyline, and the drama that comes with that is continuing in *Ant-Man and the Wasp* with the idea of 'Will they be able to find her lost mother?'"







▲ SIZE

JOYNER ►



PYM TECHNOLOGIES

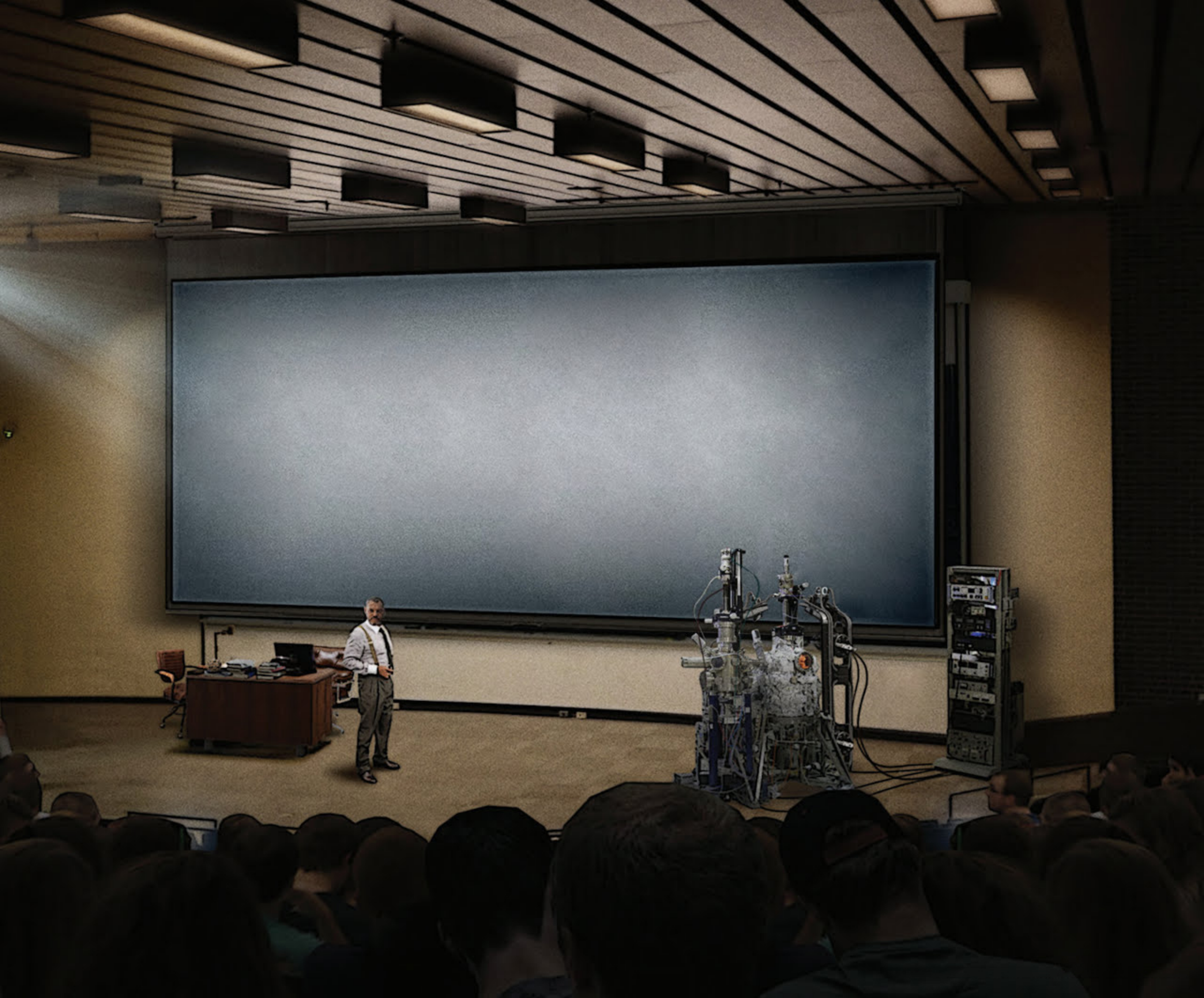
Haunted History

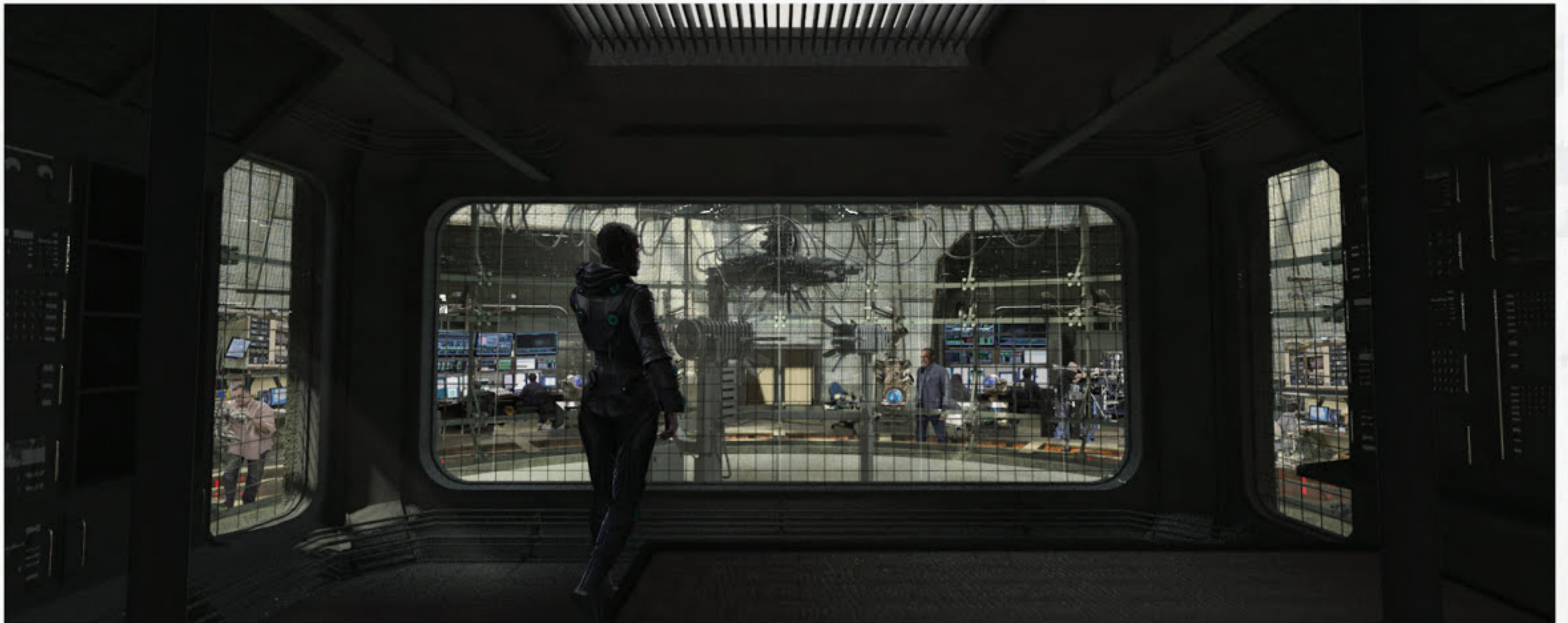
HANK PYM LOG ENTRY:

It's gone. The lab is gone. I need to try to find a way to get it back, but my normal means for tracking it have been inexplicably deactivated. I've been searching for another way to locate it, but the only option that comes to mind is Bill. I'm probably the last person he wants to see—and the feeling is quite mutual—but I don't have a choice. We're running out of time. — **H.P.**

After Hank, Hope, and Scott have the lab stolen from them, Hank knows he must turn to an old colleague to help them find it: Dr. Bill Foster. "Bill Foster is a guy who worked with Henry Pym back in the day on several projects," says actor Laurence Fishburne, who plays Bill Foster. "He's a scientist in his own right—very much Hank Pym's match, although Hank Pym would never admit that. And he's been helping out this young woman who, because of one of Hank and Janet's missteps, has been suffering and living with a condition that's almost unlivable. He's taken this young woman in, and he's been helping her to contain herself and deal with this condition, and he's trying to help her get her life back."









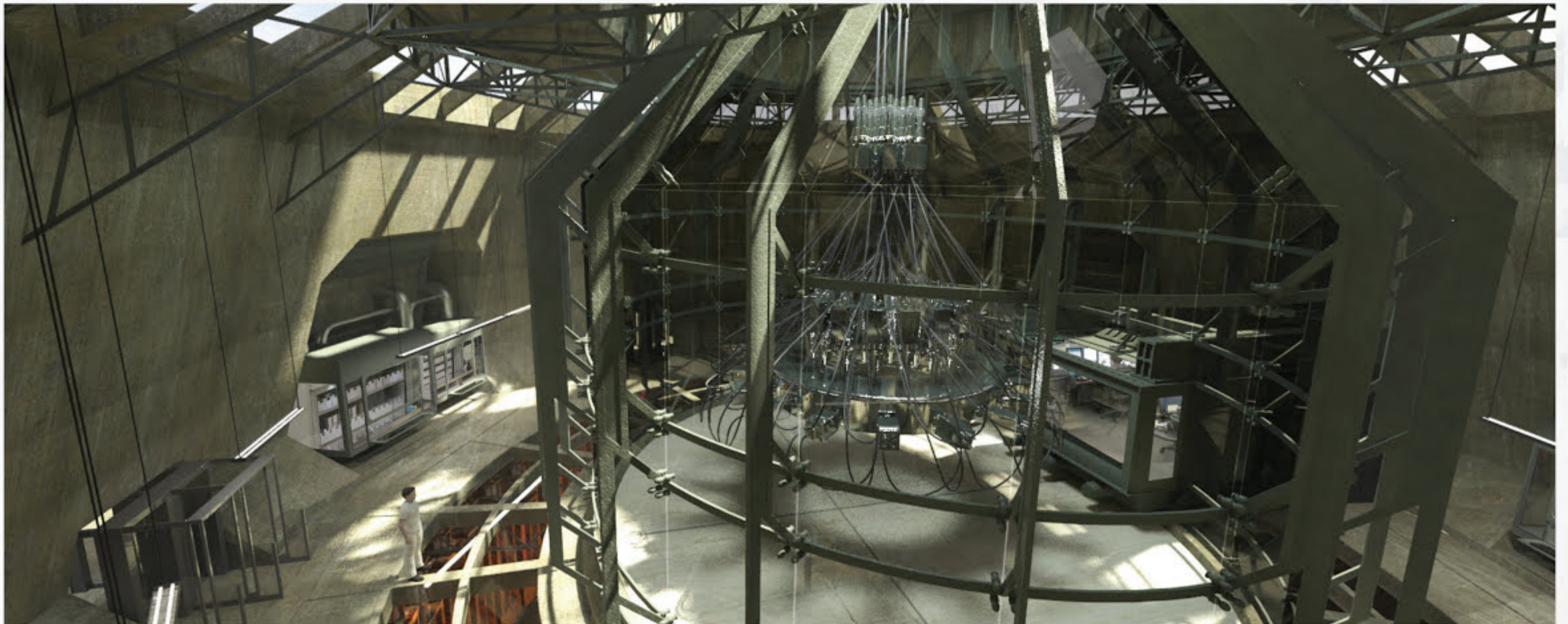
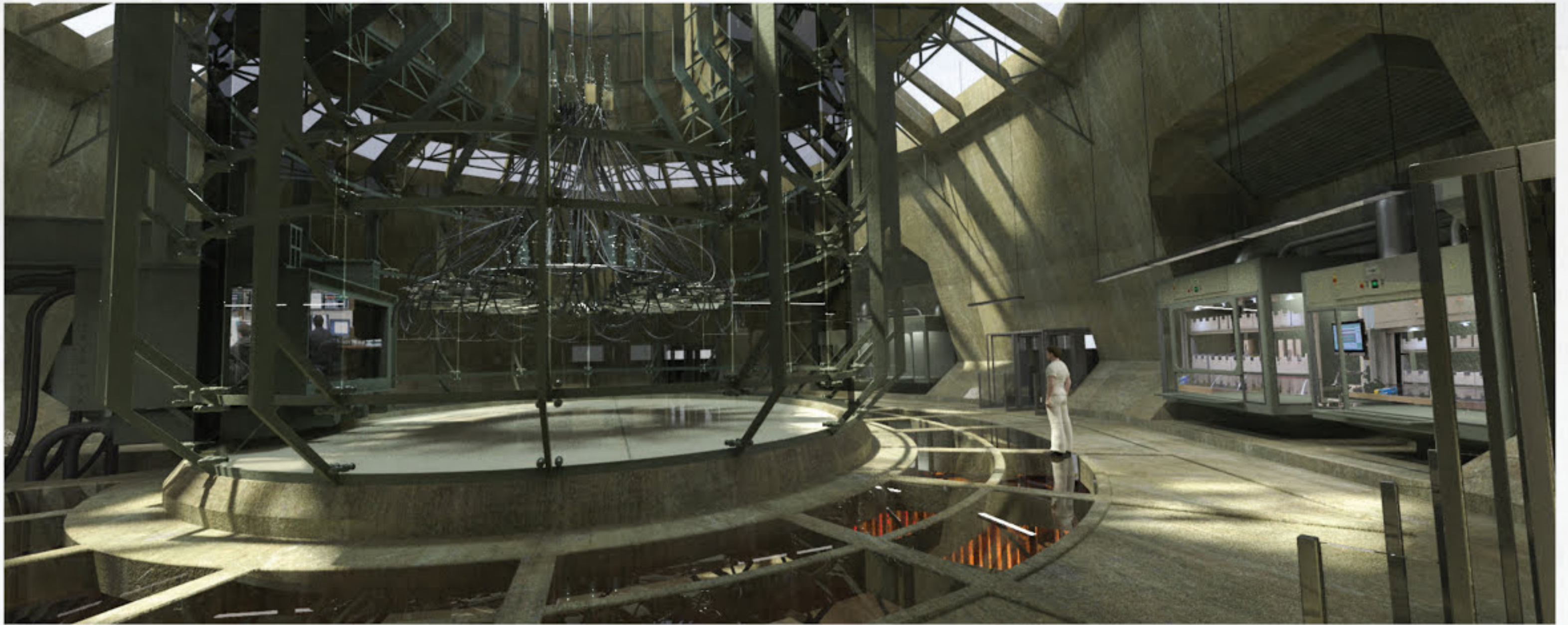
Bill Foster's Lab

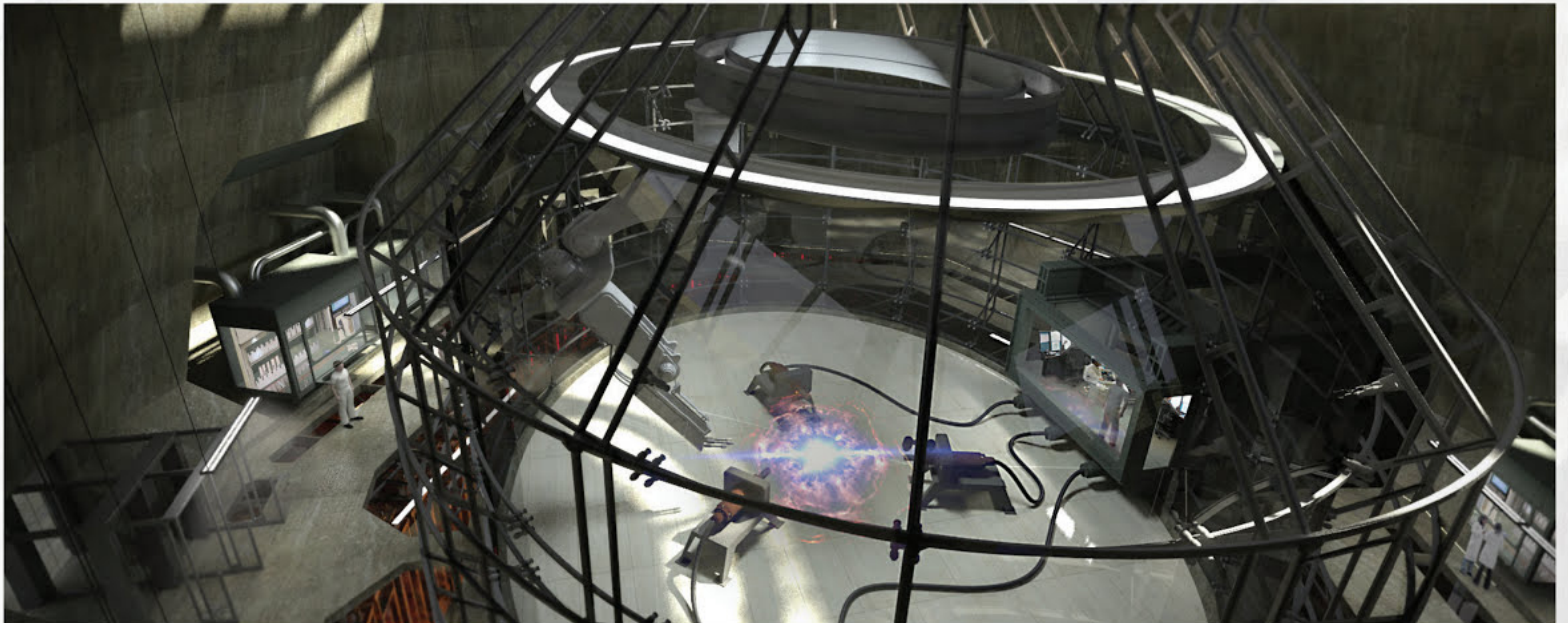
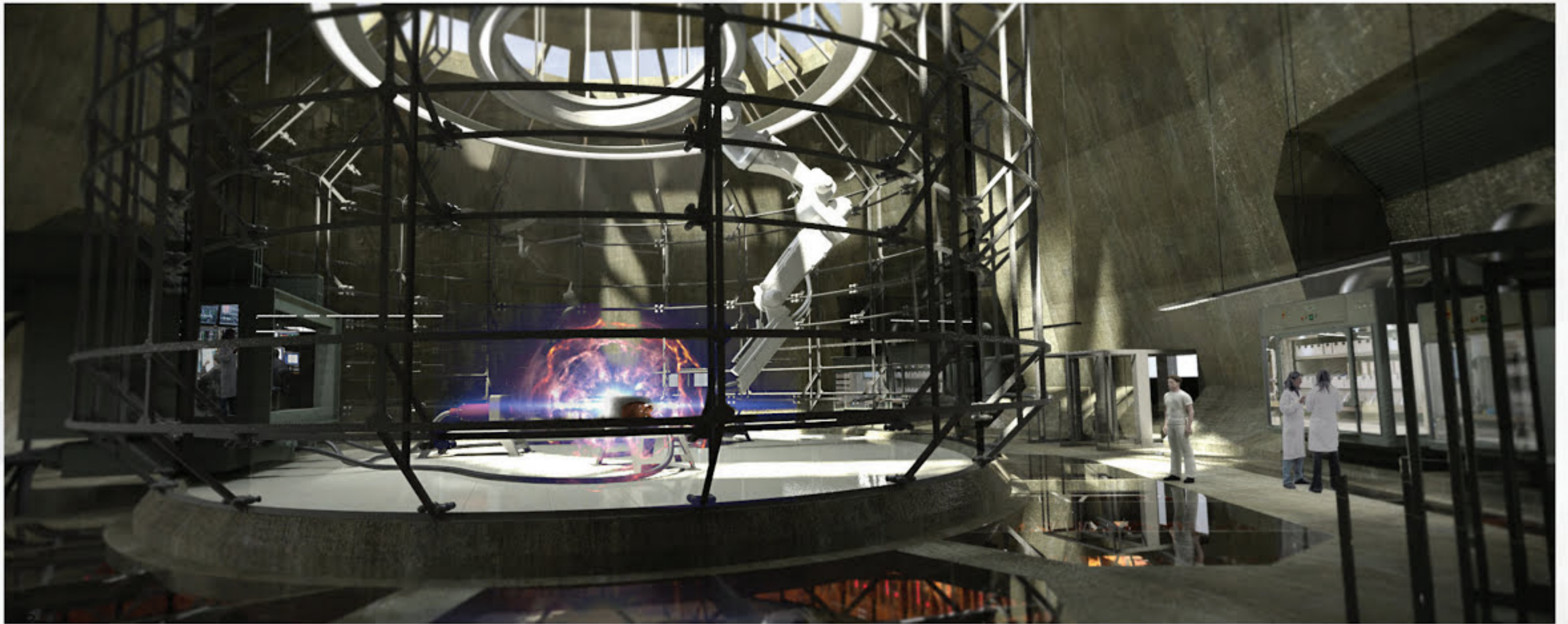
In 1970s Marvel comics, Dr. Bill Foster was a character called Goliath, a version of Giant-Man. "This is how we're portraying it in the story," co-writer and actor Paul Rudd says. "It's a bit of an adversarial relationship. They were co-workers—although Bill probably worked under Hank. And Hank, in his inimitable way, wrote off all of the people that he worked with, and there was a growing animosity.

"We start the film where this accident happens. And indirectly, Hank and Janet—but particularly Hank—might be considered responsible.

Bill Foster goes in to try and clean up Hank's mess, according to Bill. And they have been estranged for many years. The first time they see each other since said accident is in this film. They don't get along. And then we see what that accident was, and what their relationship is unfolds."

That accident led Bill Foster to take responsibility for a child named Ava, who would grow up to become the film's main antagonist.







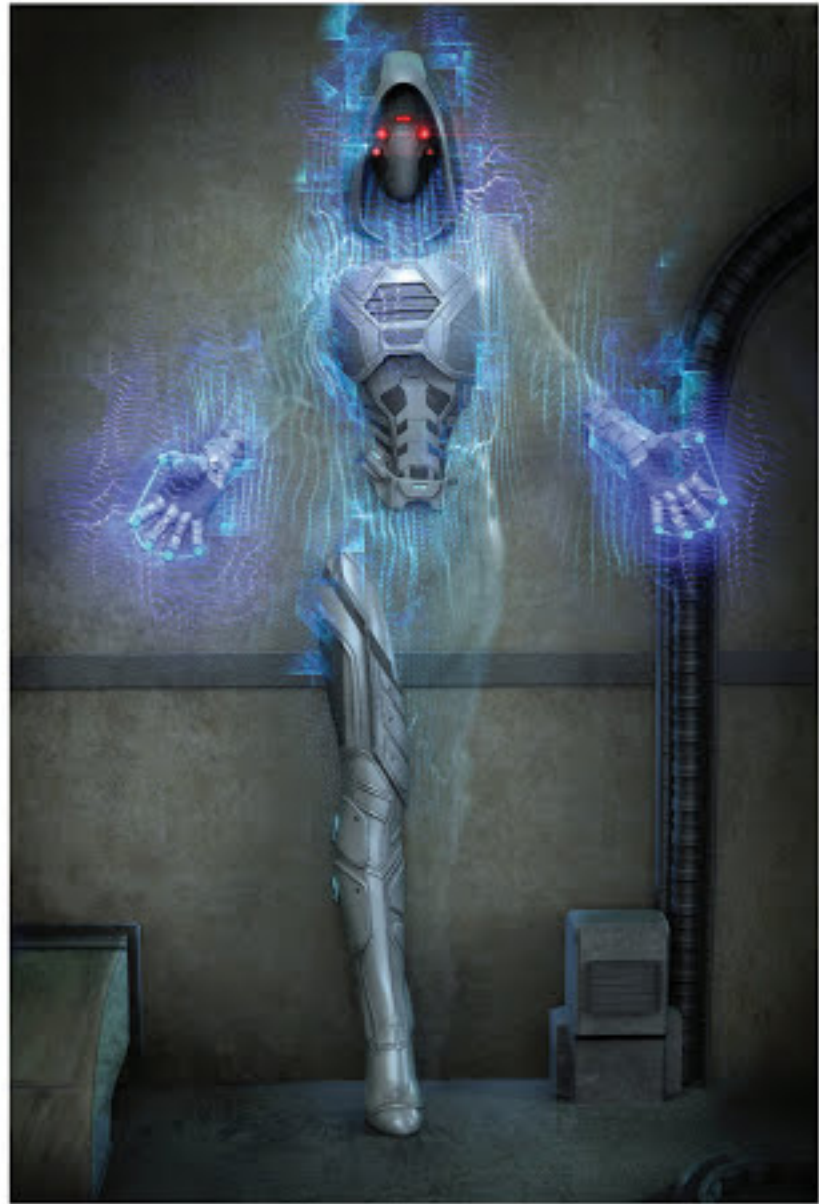
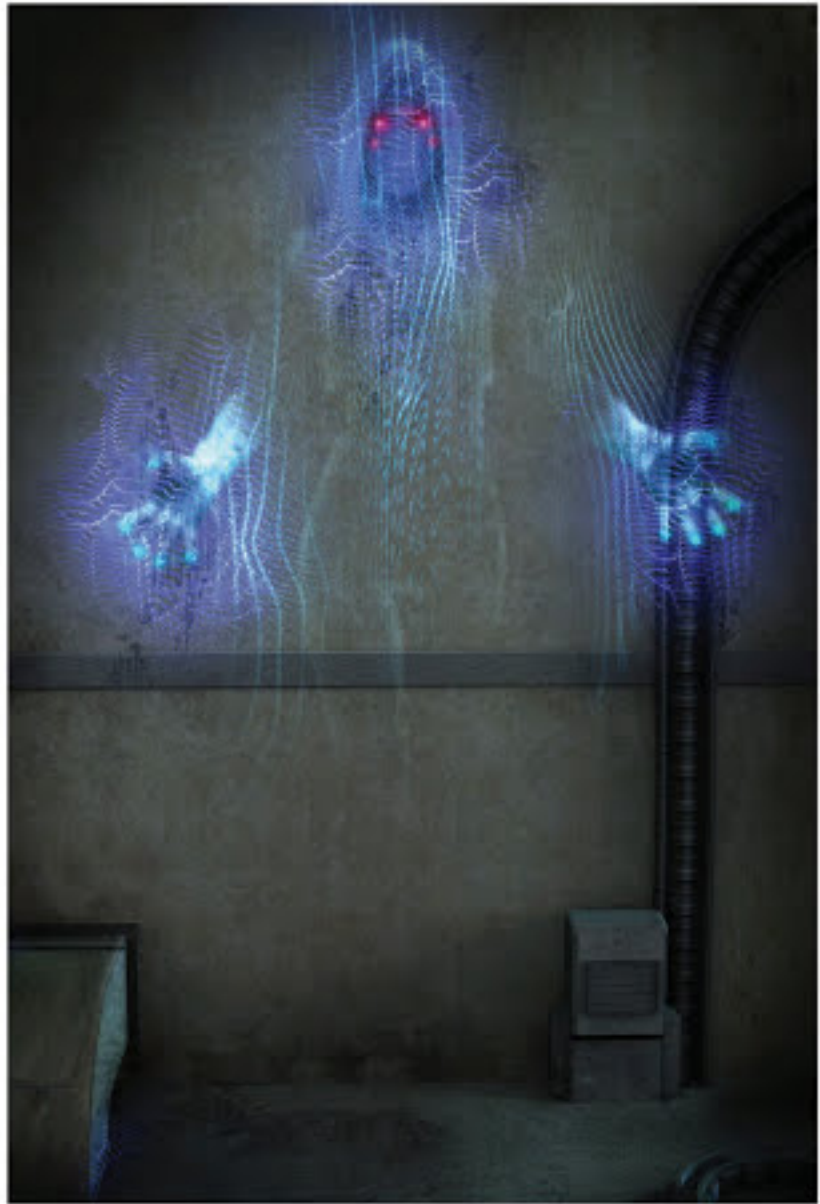
Ghost

"It's fun to invite new cast members to the party and expand the worlds a little bit," Producer Stephen Broussard says. "And we've done that in a big way in *Ant-Man and the Wasp*. The main villain, if you can use that word, is a character who goes by the name of Ghost. In the comics, Ghost was traditionally an Iron Man villain and was traditionally drawn as a man and had a mysterious background. No one knew who Ghost was, what Ghost's real name was, where they came from—unlike Hank Pym to Ant-Man or Peter Parker to Spider-Man. There was no known alter ego to readers. And that was intriguing to us for several reasons because it provided a canvas to tell the story of a character that's rooted in mystery. Where did this character come from? Why are they after the same things we're after? Why are they standing in our way? Unraveling that mystery seemed very cool and a very neat opportunity for this movie, for the story we're trying to tell here."

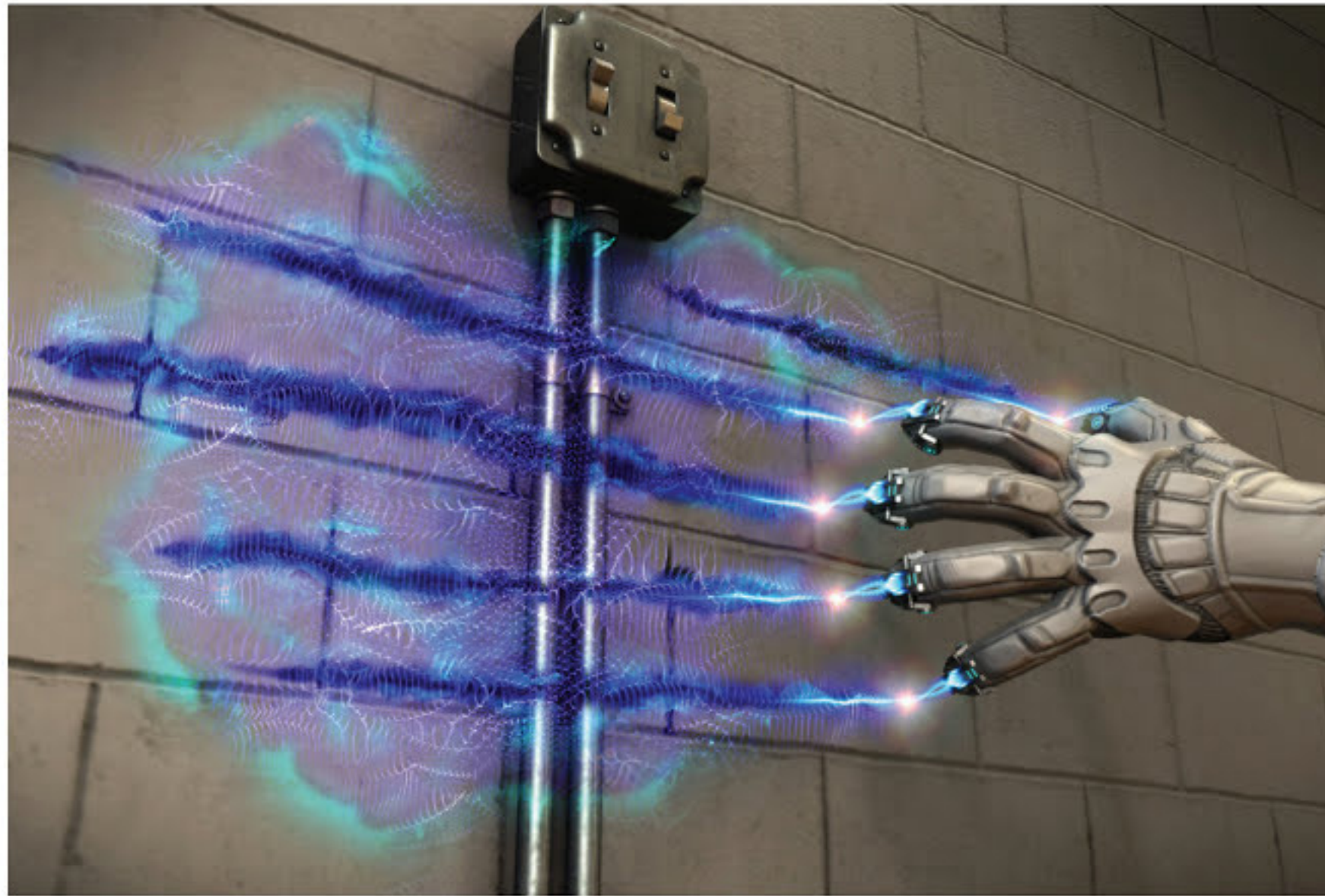




"I was thrilled when Andy [Park] came to me requesting designs for Ghost," Concept Artist Tully Summers says. "The reference images from the comic and animated series—along with the fact that they wanted to gender-swap the character—was very inspiring, and she quickly became one of my favorite characters to work on. The idea of this technologically created, haunting phantom really captivated me. My second take on the character was ultimately used in the film. It went through some minor adjustments along the way, but it's unusual to get a direction on a character so quickly. I think that speaks to how much the idea resonated with me. Once Ghost's outer containment suit was established, we explored different under-suit options that she could potentially wear in a larger containment facility, or maybe even for short periods outside."

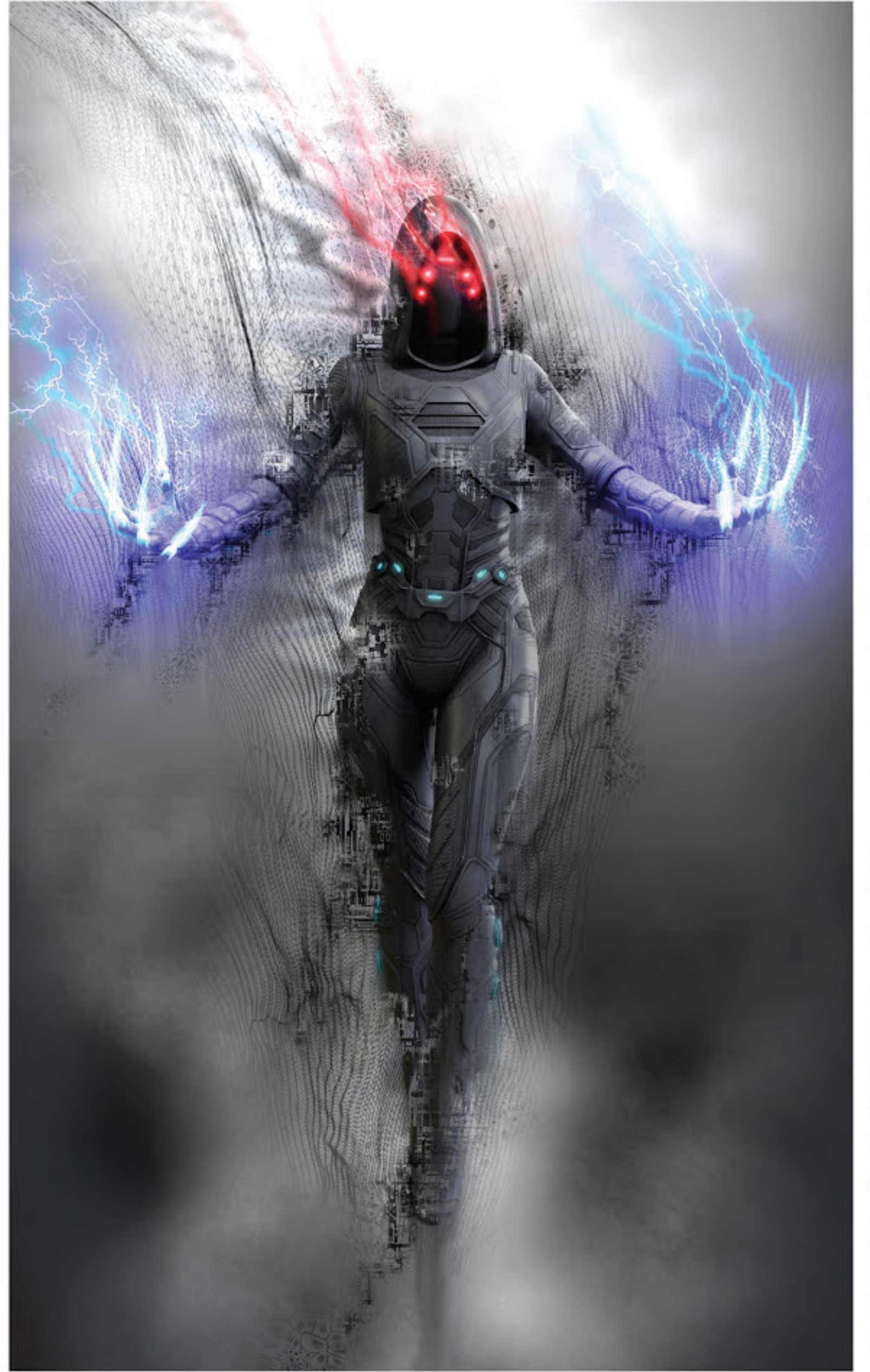






"At one point I suggested maybe she had the power to phase others she touched, not just herself—making her able to sink people into floors, or freeze their head in a girder," Summers says. "I thought it could give her an extra-creepy 'Don't let her touch me!' thing. My first design had these phase claws

that would cut through reality, not causing physical damage but having streaks fade away into the Quantum Realm. It was decided claws were too Wolverine-like, and I came up with linked finger pads that would bleed out quantum phase like ink through paper."

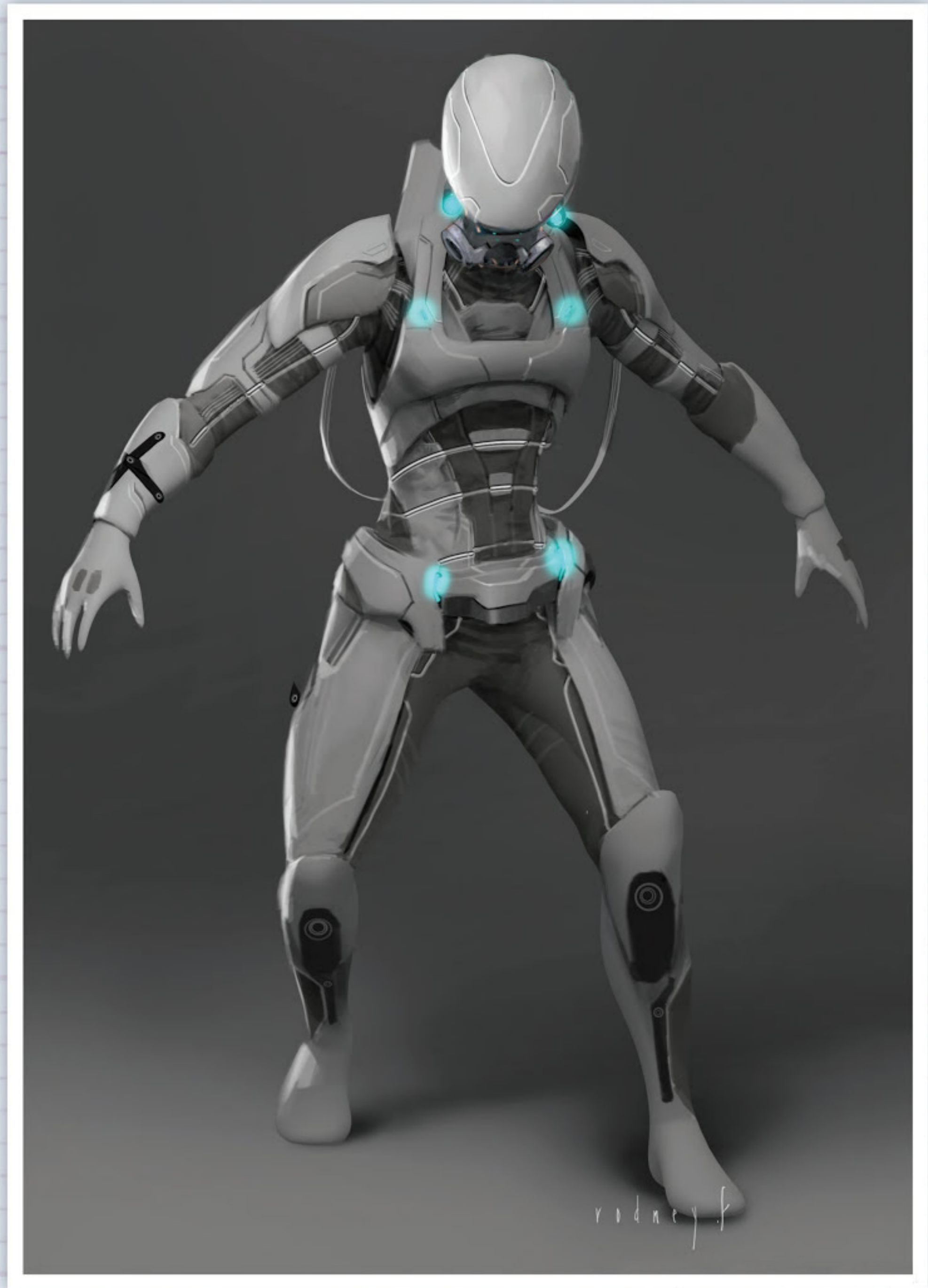
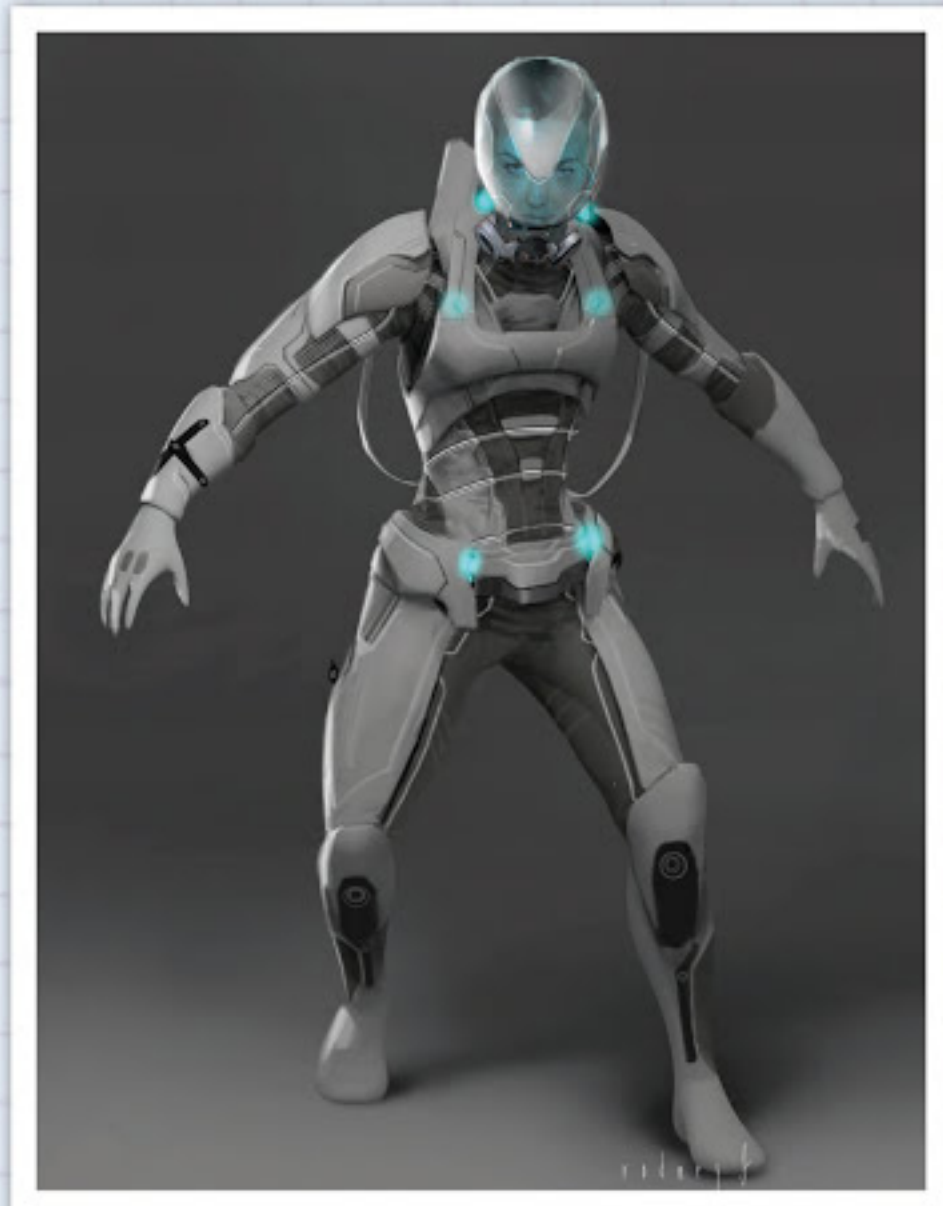
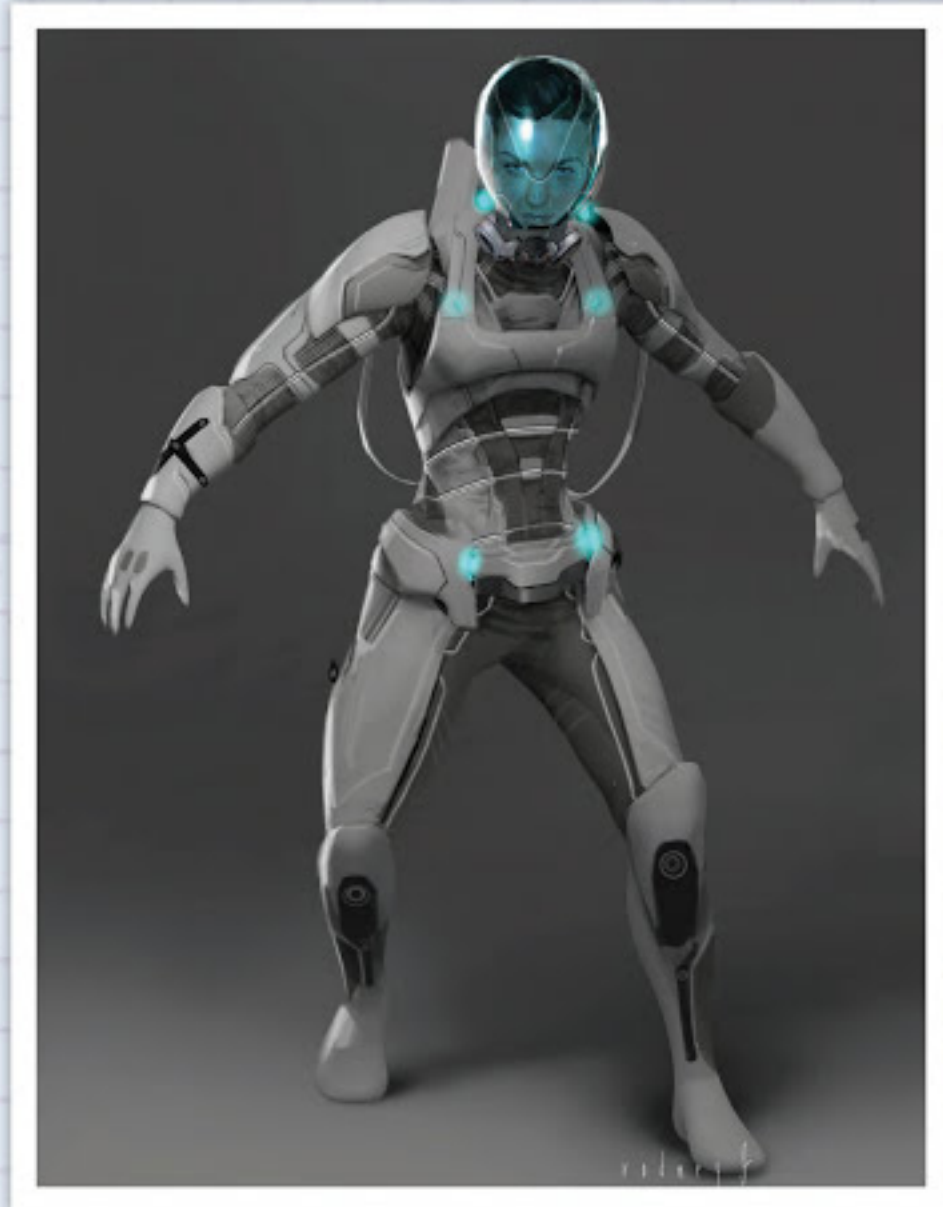


"One thing all my versions of Ghost had in common was the glowing field generators," Summers says. "Early on, we had not decided if the generators were actually causing her to phase through material or generating a field that stabilized her on our plane. Either way, I thought they were a great way to introduce action beats when she used her powers and show that the suit was functioning. I designed her suit in layers and made sure the underlying generators could socket through and always be visible. At first, I took the Ghost moniker literally and had her floating through walls. I was asked to make her more grounded and explored various effects of her walking through walls."

Summers also explored a more practical look for Ghost's design. "At one point I explored civilian clothes with bits of stripped-down containment suit incorporated," Summers says. "The idea being she could possibly infiltrate regular society for short periods of time."

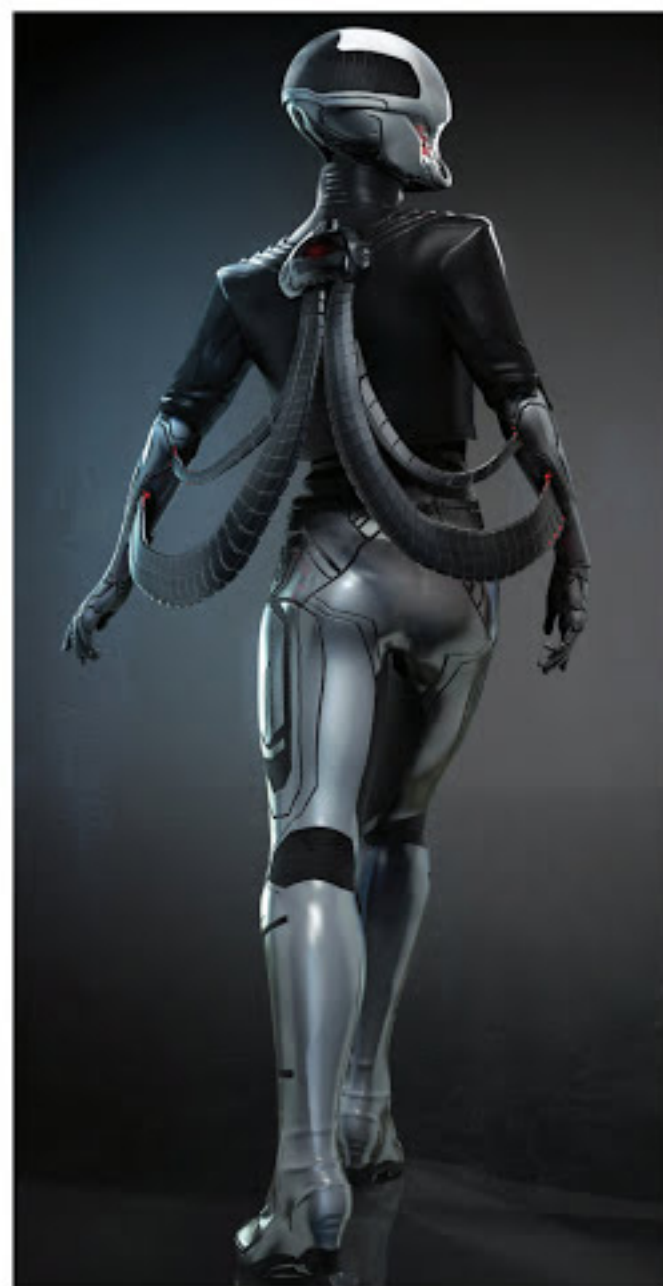








"For a large portion of the movie, Ghost is behind a mask," Broussard says. "You don't know who that is. So when that mask comes off, you need someone who can convey a lot in a relatively short period of screen time—and someone who can engender sympathy for what they're going through but also still be scary as the heavy and the villain of the whole movie."





Ghost isn't seeking global domination—she has more personal motivations. "We meet her much, much later in the story as she's grown up and has been this very unhappy character over the years who can't touch anything, who has to wear this containment suit to even remain tangible, and who has fallen in with people who will hire her to go do things," Marvel Studios President and Executive Producer Kevin Feige says. "When you can walk through walls, you can walk through vaults, you can go do whatever you want. So she essentially becomes an assassin, a criminal for hire, and she is not happy about it. And as Hank is continuing to develop these things to hopefully go find Janet, she realizes that those new devices might be able to help her and put her out of this pain and make her tangible once again."

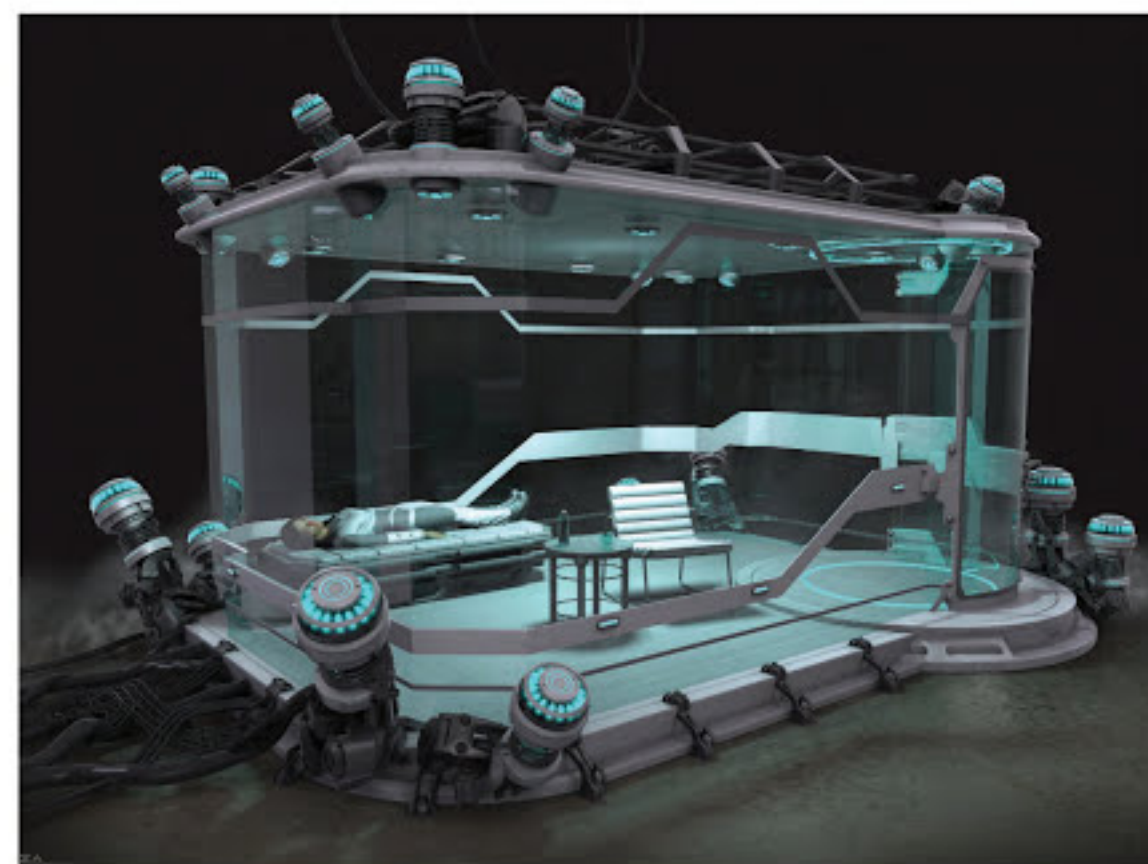




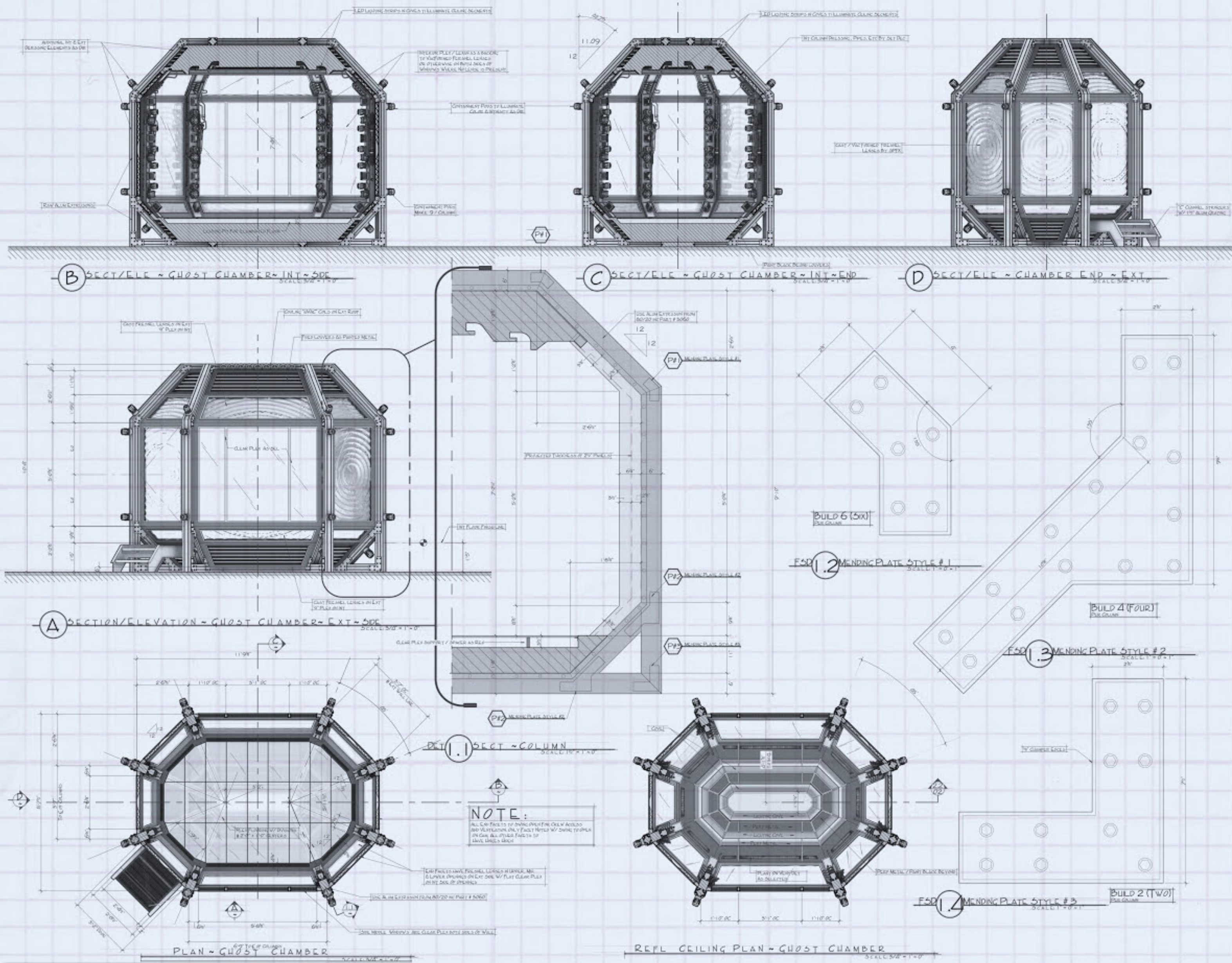


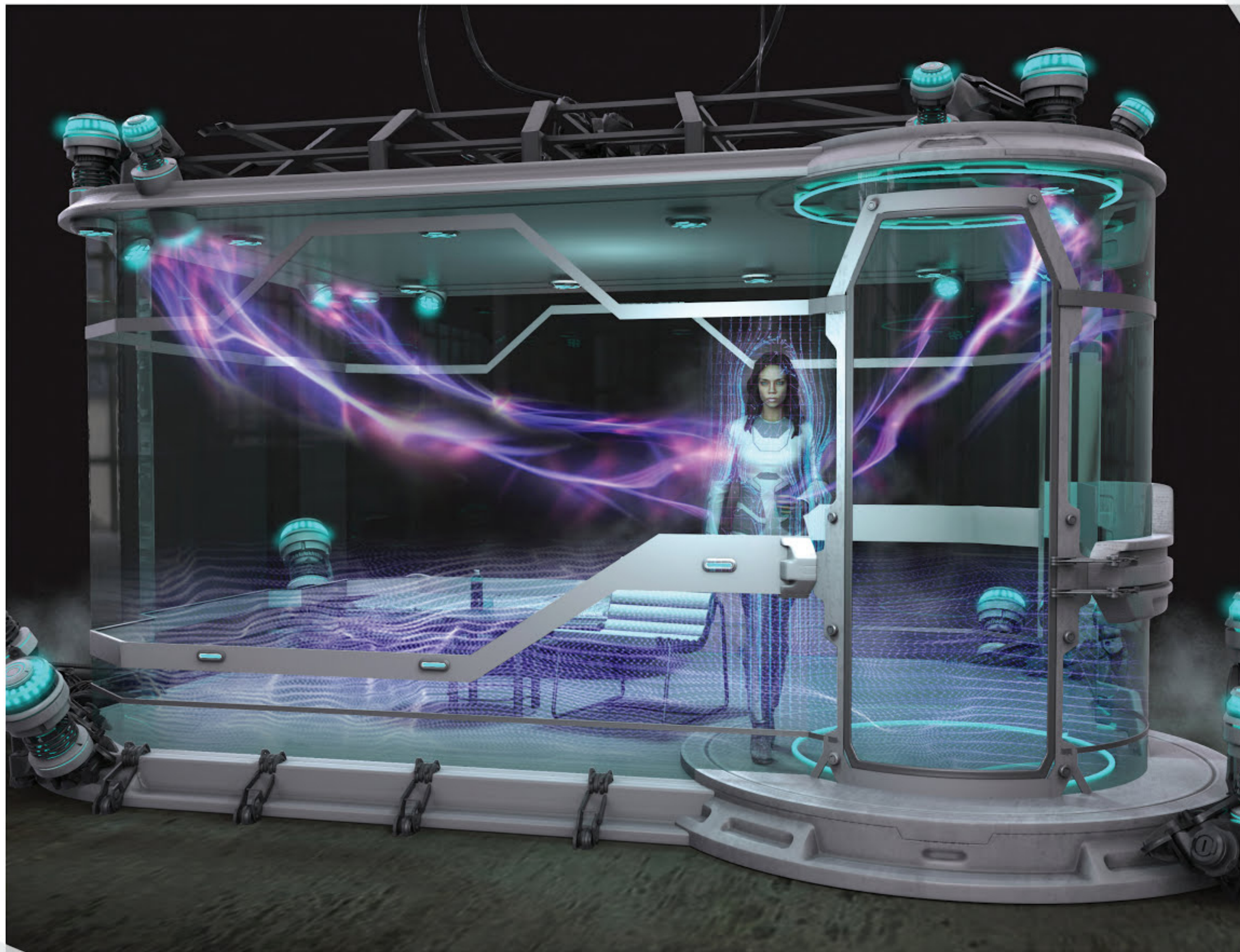
Ghost Chamber

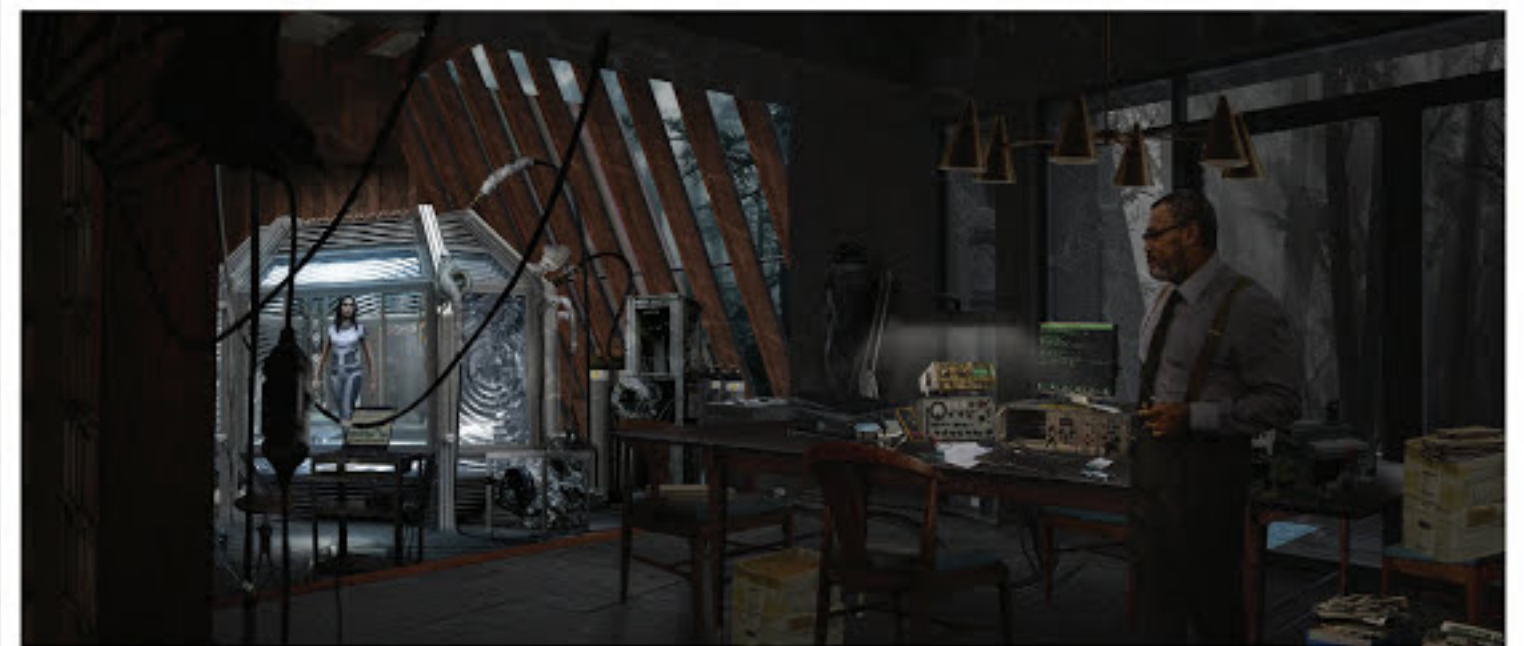
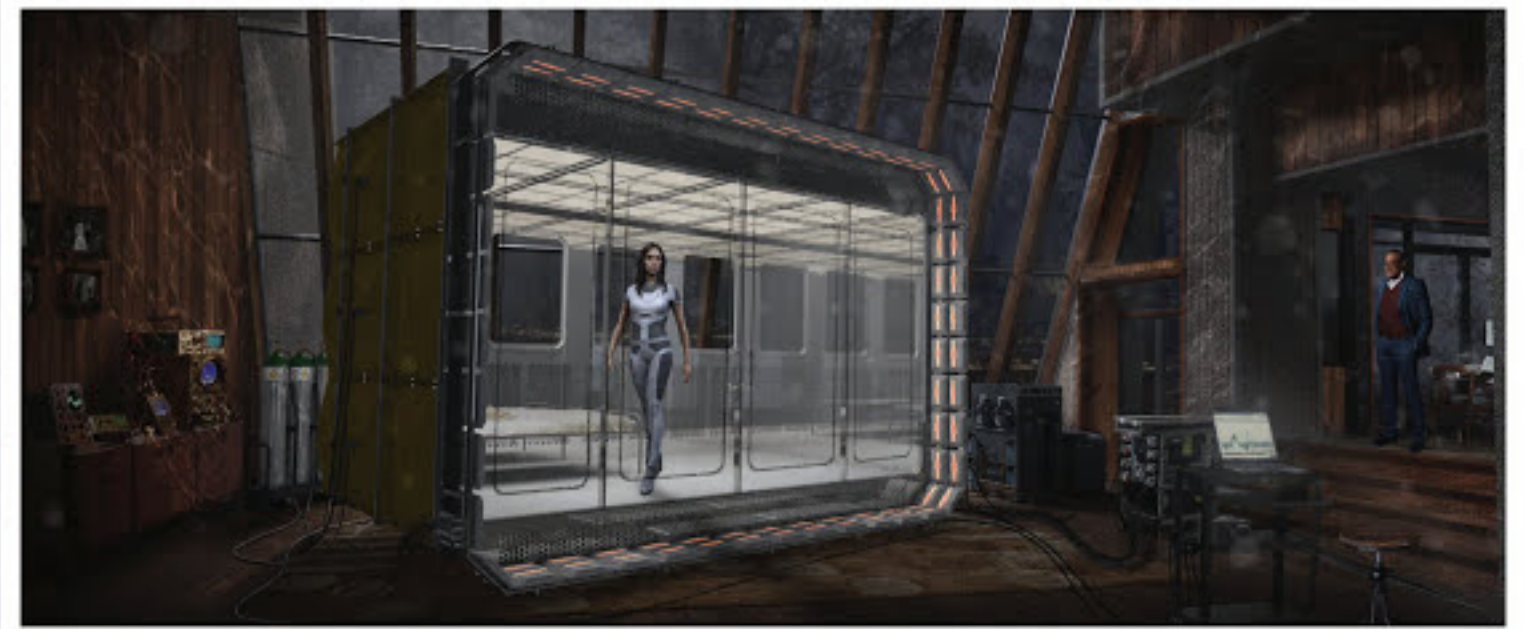
"When it was decided the suit was her containment and kept her stable, I was fascinated by the idea that when the suit was increasingly damaged, she would get increasingly powerful, more chaotic and out of control," Concept Artist Tully Summers says. "My ideas for Ghost's rejuvenation chamber all included large-scale early prototypes of the field generators on her suit. The early upright versions were meant to be odes to *Metropolis*. We then expanded the space, thinking she needed some actual living room."











Bill Foster has constructed several recovery chambers for Ava through the years. "We have our Ghost chamber that we've seen in Bill's lab, but this is the first place we're going to see the chamber that is in the Ghost's lair, and it's a chamber we've never seen before," Production Designer Shepherd Frankel says. "We've challenged ourselves to find

an environment that we haven't seen in the MCU before. This one uses a lot of light, and it feels like it's been fabricated as if it's come out of Foster's mind and shop, and that he's known Ava for years. And he's trying to help her contain her phasing. So this is something with off-the-shelf parts that have been put together in a way to help contain Ava's phasing.

We put in Fresnel lenses to help the mystery and the shadow and the distortion of our character. And so while this home and this environment is residential at first, its appropriation is very unsettling. And while it has some warmth to it, we want our audience to feel unsettled while they're in this domestic laboratory."

▲ TOP & MIDDLE LEFT **SILVESTRI**; MIDDLE RIGHT **RAMA**; BOTTOM **SILVESTRI**



ALEKSI



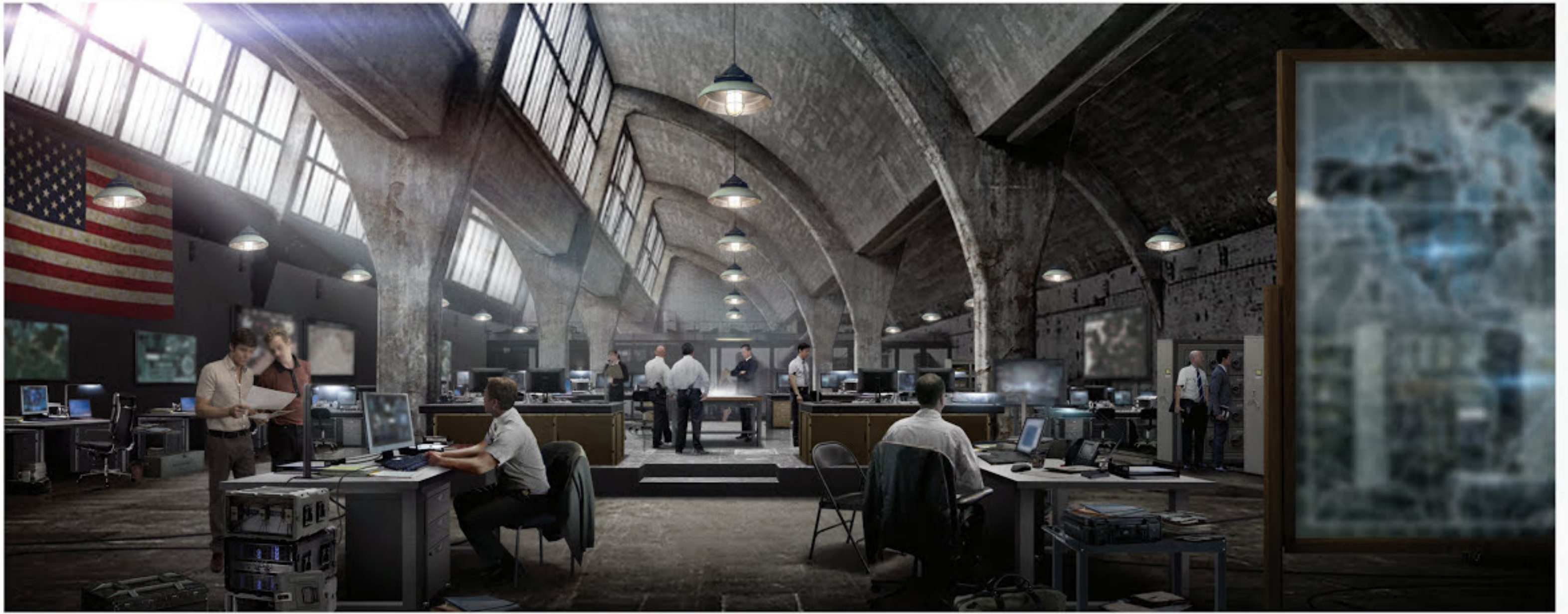
ON THE LAM

HANK PYM LOG ENTRY:

Having Scott with us is risky—since the FBI is after him, too—but his presence is vital in making sure we have all the knowledge needed for the trip into the Quantum Realm. I just hope all the trouble he causes is worth it—and if we get Janet back, it will be.

— H.P.

"Hank and Hope are fugitives," Producer Charles Newirth says. "They're on the run. Scott is a prisoner in his house. So it's a very different kind of genre [from the first *Ant-Man*], and it will have a very different tone because of that. And I love road-trip pictures. I love something where they have to stay one step ahead of the law. They're always being chased. The Feds are nipping at their heels, and there's an energy that's really propelling it forward, which is very different from the first film where you're meeting the characters, understanding the world and the universe of Scott Lang and Ant-Man."





THE F.B.I.

To make matters worse in Scott's case, Agent Jimmy Woo has a sneaking suspicion something is amiss. "Scott's got the dual stakes in this movie," Producer Stephen Broussard says. "Helping them complete their adventure, and get what they need, while also knowing that if he doesn't

get back home with that ankle bracelet back on, he's going to have his sentence extended. It's going to be ten more years of hard time, forget house arrest. And he wouldn't get to see his daughter anymore. All the stakes that he fought against in the first film come crashing back down on him."



LUIS' SECURITY

Reformed criminal and budding entrepreneur Luis has straightened up his act since *Ant-Man*. "I'm kind of doing my own thing," says actor Michael Peña, who plays Luis. "I have X-Con, a security business, which plays into the plot a little bit."

X-CON
SECURITY CONSULTANTS

We got you covered.

TOP & MIDDLE RAMA; BOTTOM GRAY ▲ RAMA ▲

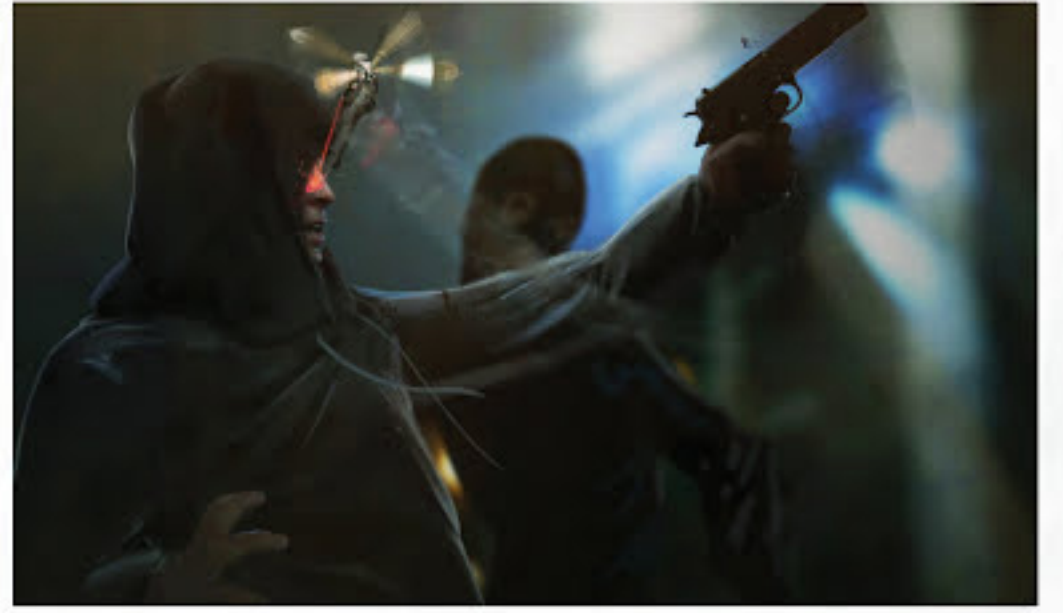


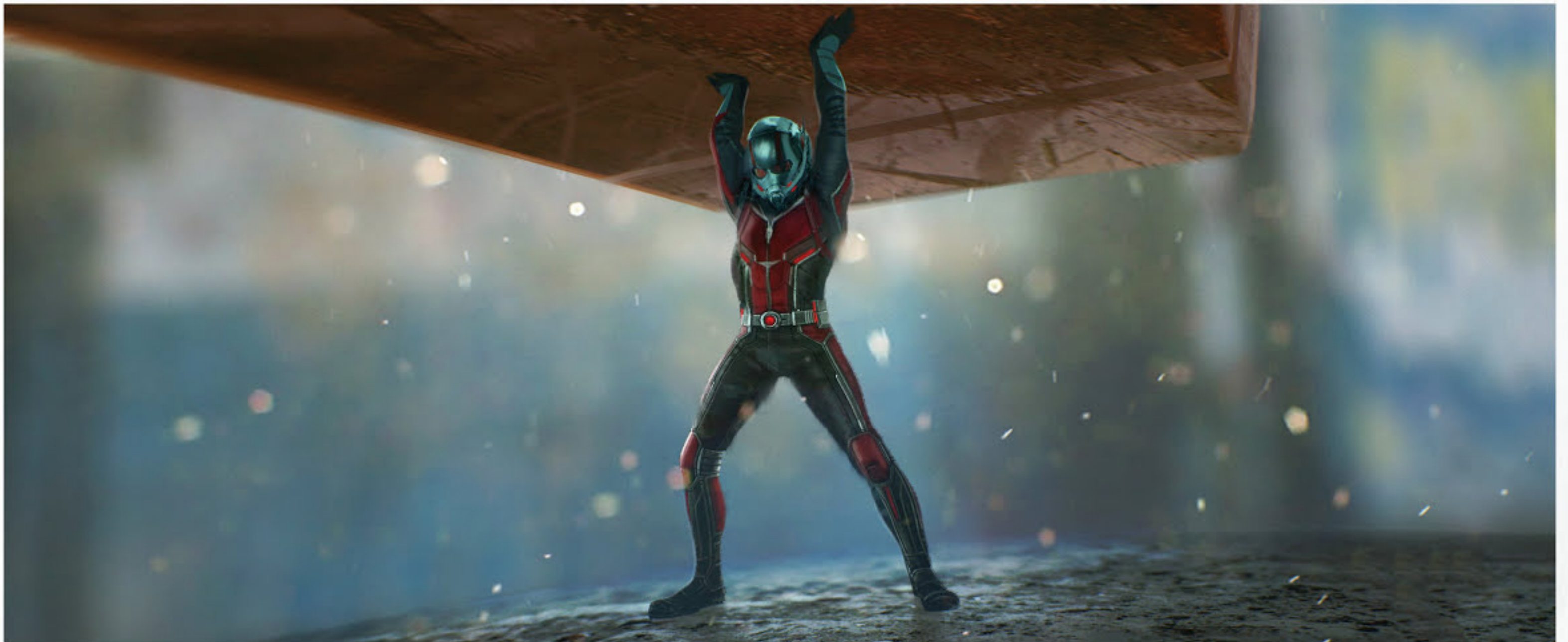


















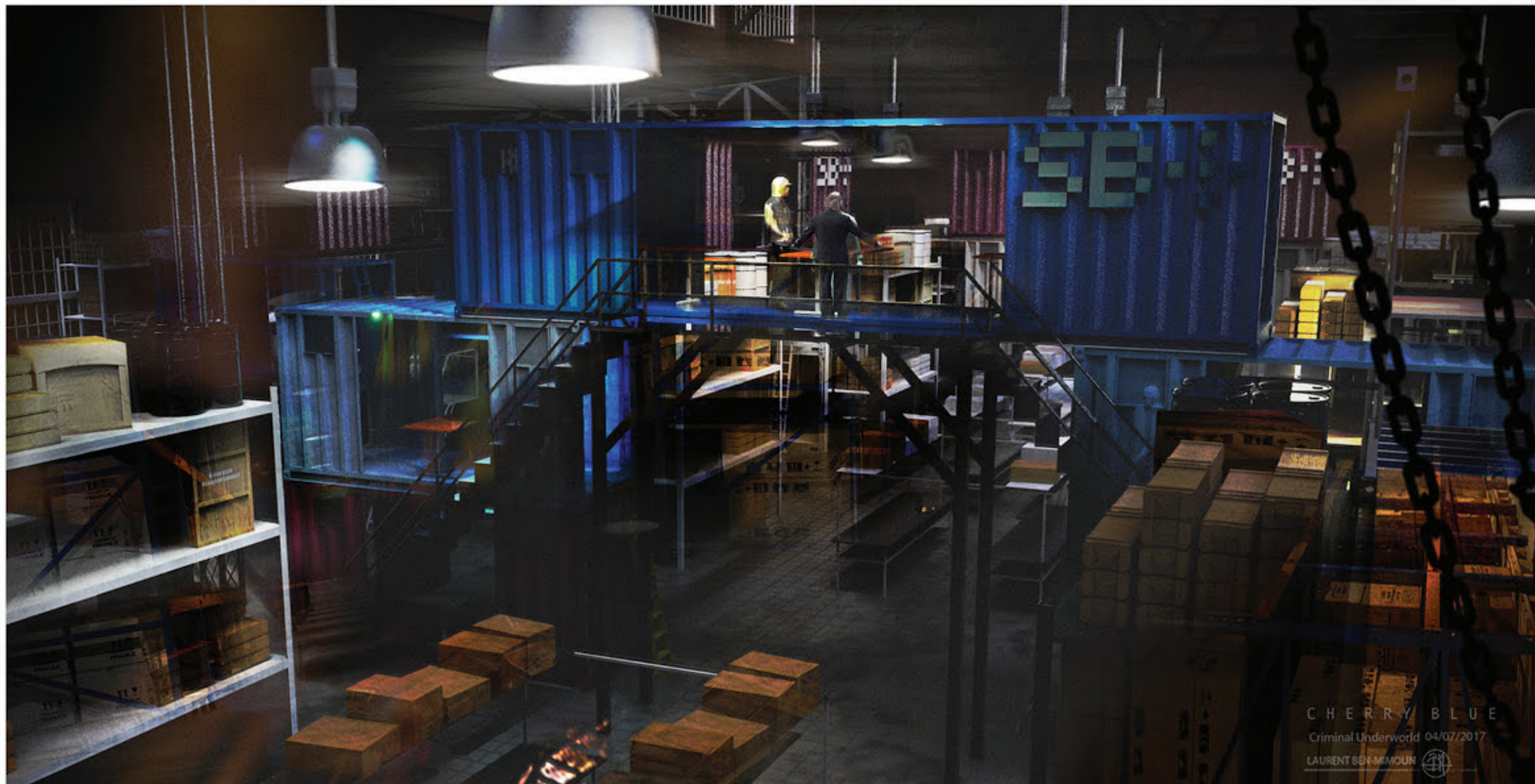
HANK PYM LOG ENTRY:

Today we're going to secure the last part we need for the Quantum Tunnel. Hope will be dealing with some unsavory types when she picks up the part. We've used them before, so I'm trying not to worry. She's well-trained to face any unforeseen possibility, and we're bringing her Wasp suit just in case. — **H.P.**

SONNY BURCH

"Sonny Burch, as he says, is a procurer of the hard to procure," Broussard says. "He's kind of this shady underground guy with his hands in a lot of pots. And he's someone that Hank and Hope had to turn to when they had to go underground. Unfortunately, one of the aspects of having to go underground is dealing with shadier characters. If they need a piece of technology, if they need some equipment that you can't go get at the local Radio Shack, they need to turn to people that have access to this. They used to be able to go through legitimate channels—but if they were to do that now, they would pop back up on the radar of the people that are after them. So they have to make uneasy alliances with shady characters like Sonny Burch."







ON THE LAM



"Wasp is someone that we've never seen in action on screen," Director Peyton Reed says. "And that's been great in terms of figuring out how she moves, how she fights, how she flies, and the choreography of all of that—and just her character as a hero. It's a very different Hope Van Dyne in this movie, which is really, really exciting."

SCHIRLE ▲ BRICLOT ►





STEPHEN EDLICK SCHIMZUE









ON THE LAM











"The first film was about acclimating the audience to this idea of shrinking," Marvel Studios President and Executive Producer Kevin Feige says. "To this idea of super-heroics on a micro scale and having the fun of him stuck in a drainpipe or falling through the floorboards or being chased by a giant rat or falling out amongst the raindrops. In *Civil War*, we mixed it up and we showcased that he can grow, that he can get gigantic—and we needed that in *Civil War* because we needed that whole airport battle to turn in a big way, and what bigger way

is there than Giant-Man? In *Ant-Man and the Wasp*, we start to play with the whole notion of scale. It's not just about being tiny, it's not just about being giant, it's about all of those scales in between. And frankly, going back and forth so much, what would that do to your head? If you don't have a marker to tell how big or small you are, you can't tell. And we're going to have fun with the audience with that as well. So you think at one point he's tiny walking amongst the floor, and suddenly cut back and realize he's gigantic, and you get lost within this scale adventure."















THE QUANTUM REALM

HANK PYM LOG ENTRY:

The time has come to enter the Quantum Realm and bring Janet home. I'm unsure of what I'll encounter—I only have Scott's account of his time there as a guide—so needless to say I'm a bit nervous. Let's hope all the preparation pays off. — H.P.



"The experience that Scott has in the Quantum Realm at the end of *Ant-Man* reignited Hank and now Hope's question that maybe Janet is still down there," Producer Stephen Broussard says. "Maybe we could go find her?" And so, even back on *Ant-Man*—which was a

film I was not involved in the day-to-day of—I remember conversations about, 'Wouldn't we be lucky if we could make a second *Ant-Man* film? It should be about the search for Janet—going down into the Quantum Realm and finding Janet.' Even in the earliest days."





JACKSON S.



Fig. A.1



Fig. A.2



Fig. A.3

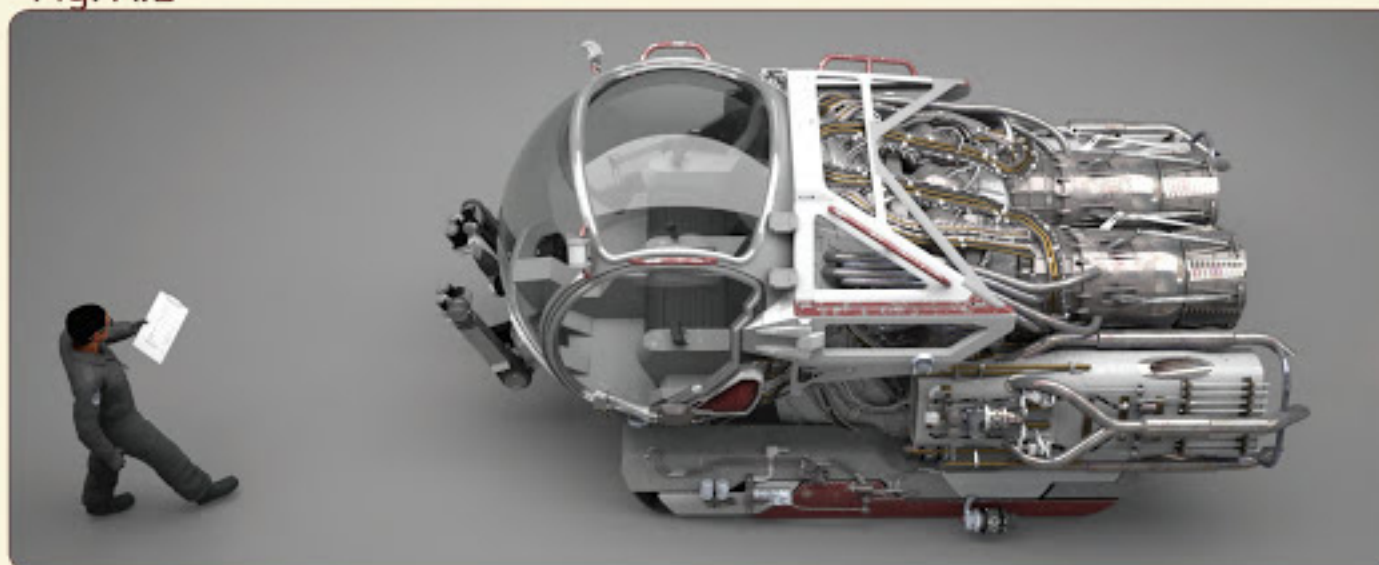


Fig. A.4



Fig. A.5

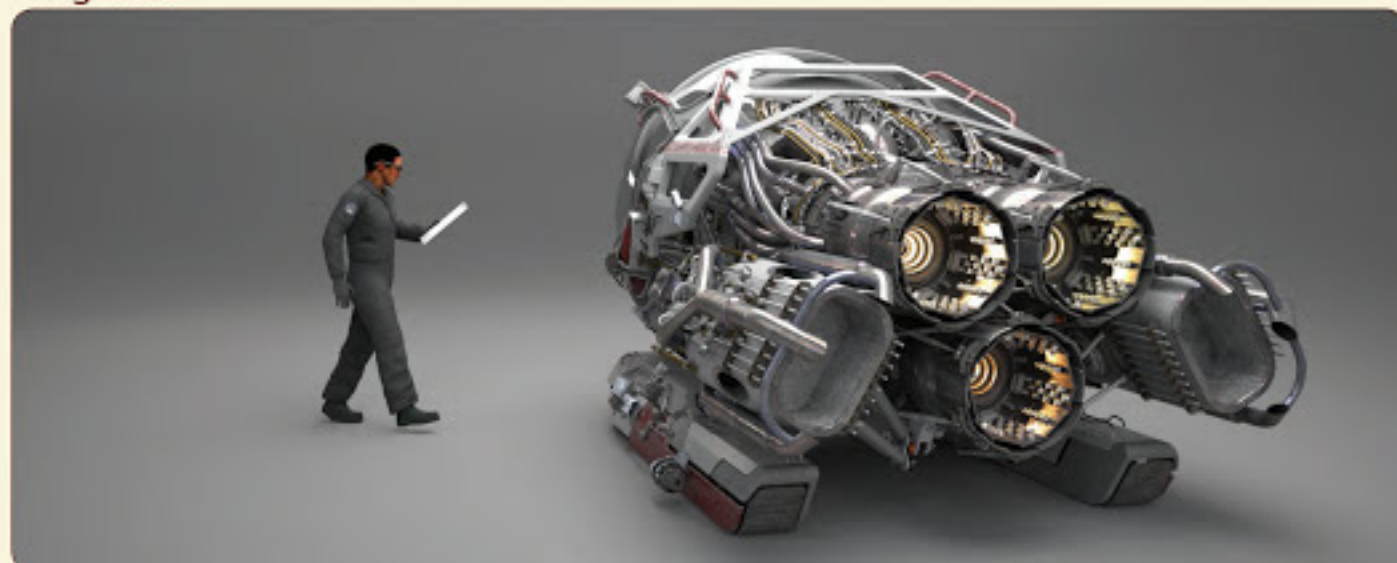


Fig. A.6

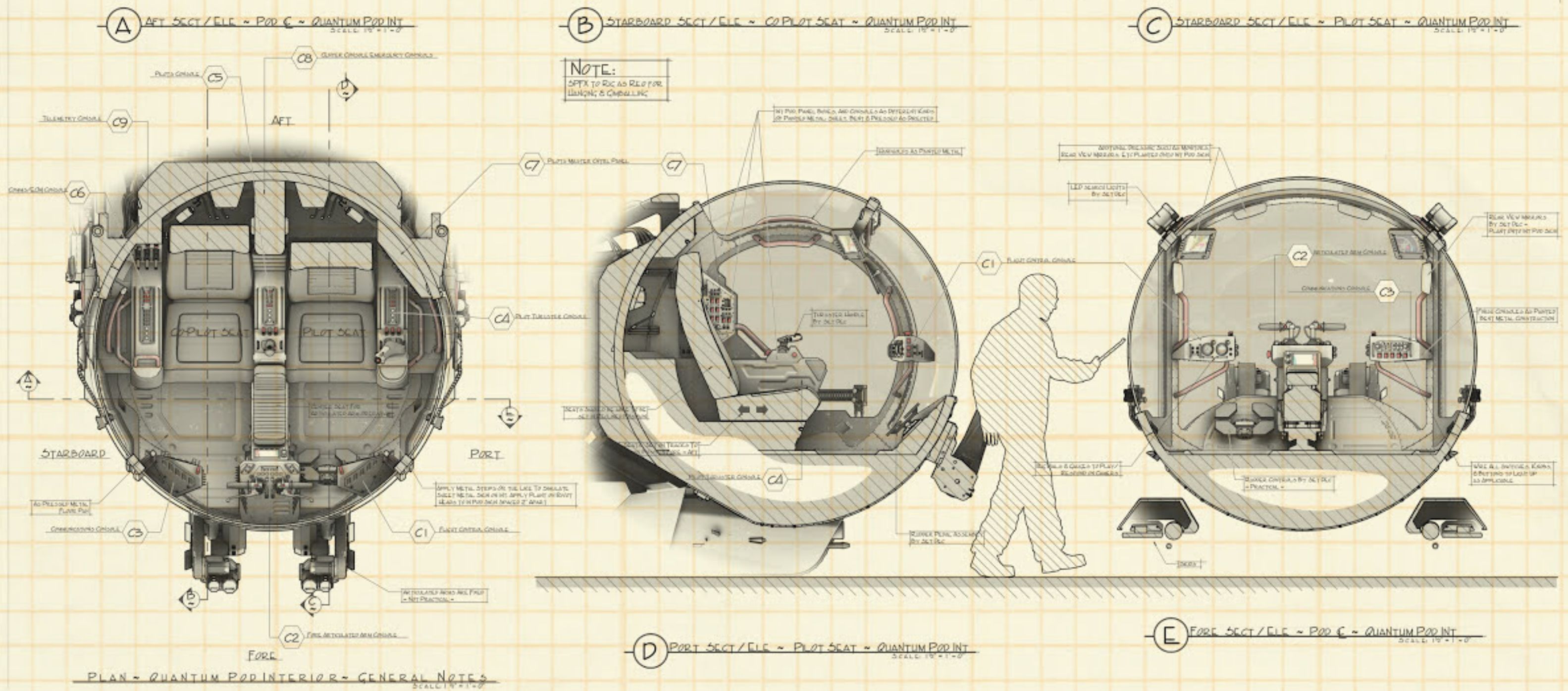
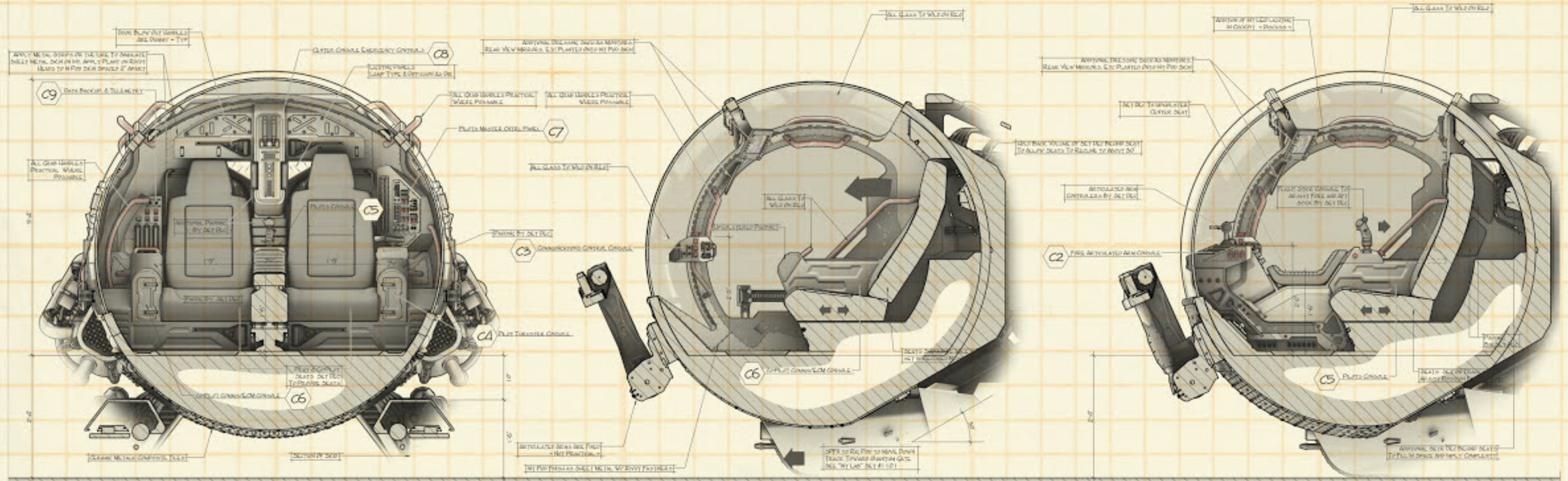
“EARLY ON, before a script was written, we were asked to spitball ideas and images to help get the creativity flowing,” Concept Artist Tully Summers says. “One of my ideas was an Ant-Mobile—a Pym Tech version of the *Fantastic Voyage* sub meant to travel through the Quantum Realm. My first version was a slightly tongue-in-cheek take on what Scott’s suit would look like wrapped around a vehicle. The cockpit was a vehicular version of his helmet, with the rest of the volume reserved for a lab space that could house multiple crew.”

“Since the last Ant-Man film, we had an opportunity to see an expanded exploration of the Quantum Realm in the film *Doctor Strange*, when the Ancient One sends Steven Strange through the multiverse on an epic adventure we internally called

the ‘Magical Mystery Tour,’” Executive Vice President of Physical Production Victoria Alonso says. “In this film, it was important for us to tie back to those same themes and that imagery in a more expanded way.

“In our story, Hank takes a vehicle and dives into the Quantum Realm. We wanted it to feel that Hank is punching through a void and descending into worlds layered upon worlds. We wanted to explore the idea that as we push into the various stages of the atomic world and expand in powers of ten, we could peel back different qualities of visuals and reality. Similar to the ‘Magical Mystery Tour’ in *Doctor Strange*, the journey of the dive is a journey through many distinct layers—each of which is its own universe encompassing its own residents, constructs, and physics.”





PLAN - QUANTUM POD INTERIOR - GENERAL NOTES
SCALE 1/8" = 1'-0"

Dym Technologies: Quantum Vehicle Technical Specs

"TO FIT THE ANT-MOBILE in the actual lab set, it became necessary to reduce the overall size of the craft, which required moving the cockpit deeper and deeper into the body of the vehicle" Summers says. "This made the

design less effective, and it was also deemed that the overall feel was too polished—too professionally manufactured. I then explored some more roughly prototyped versions that incorporated existing mini-sub technology."

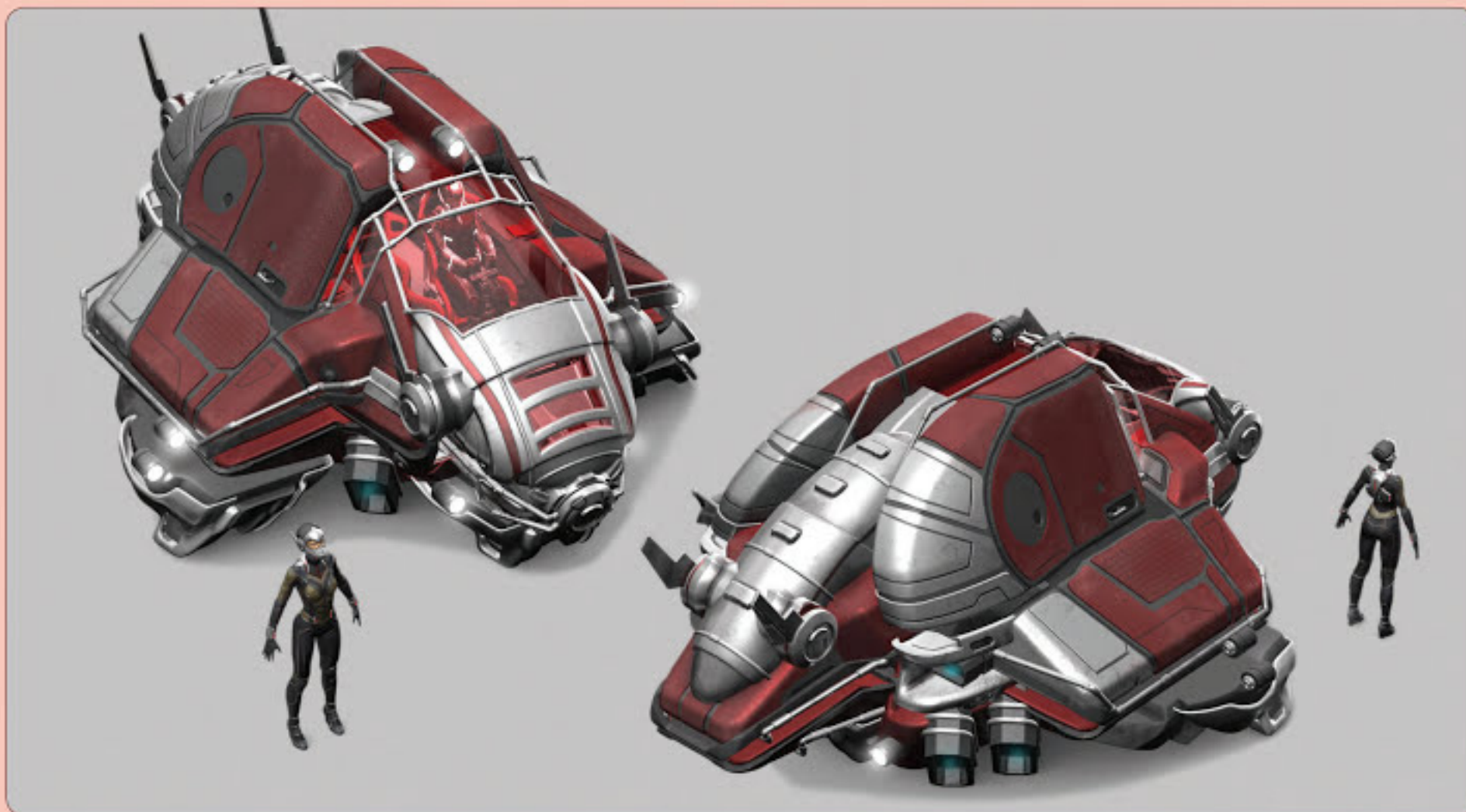


Fig. B.1



Fig. B.2



Fig. B.3



Fig. B.4

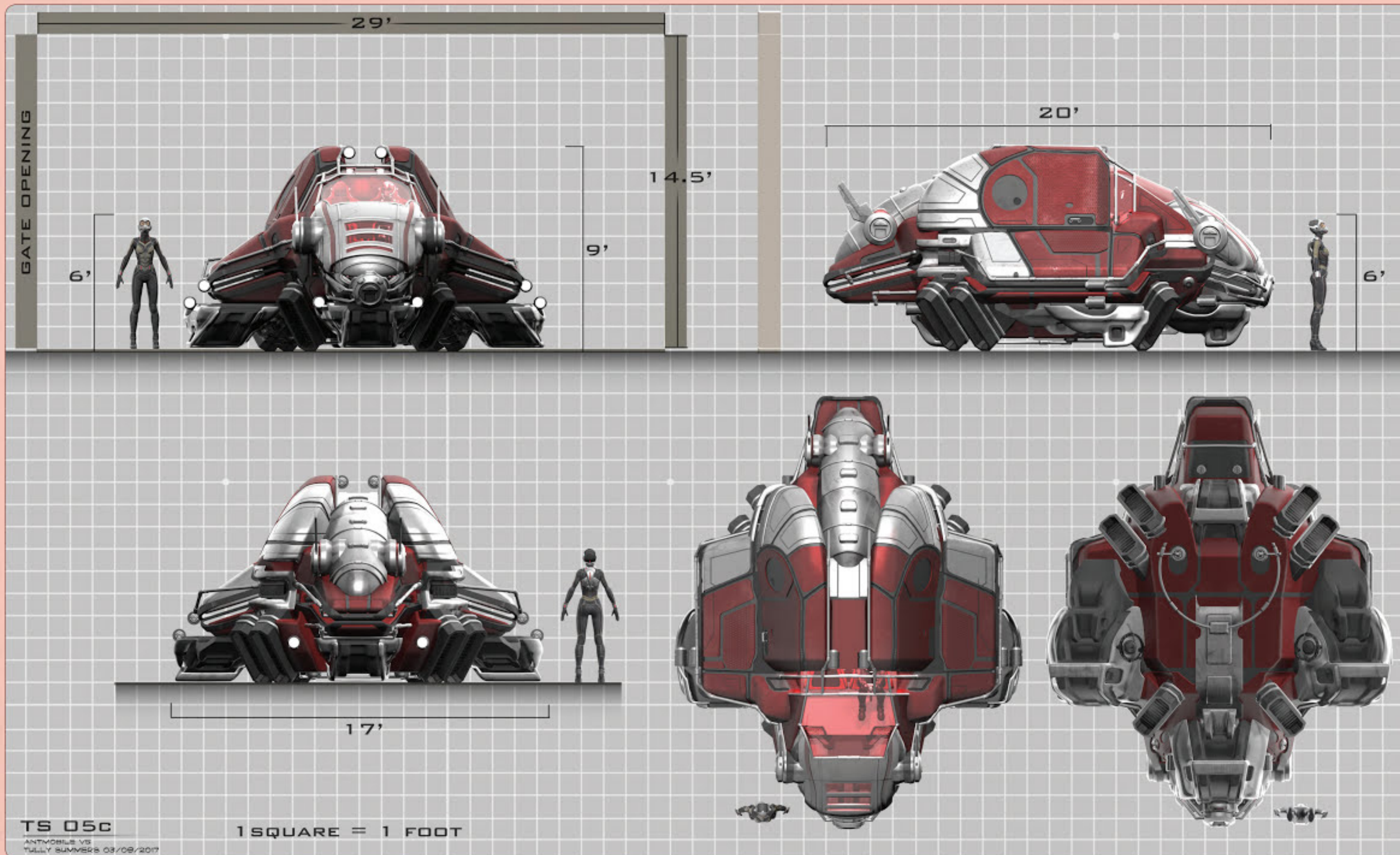


Fig. B.5



Fig. B.6



Fig. C.1



Fig. C.2



Fig. D.1



Fig. D.2

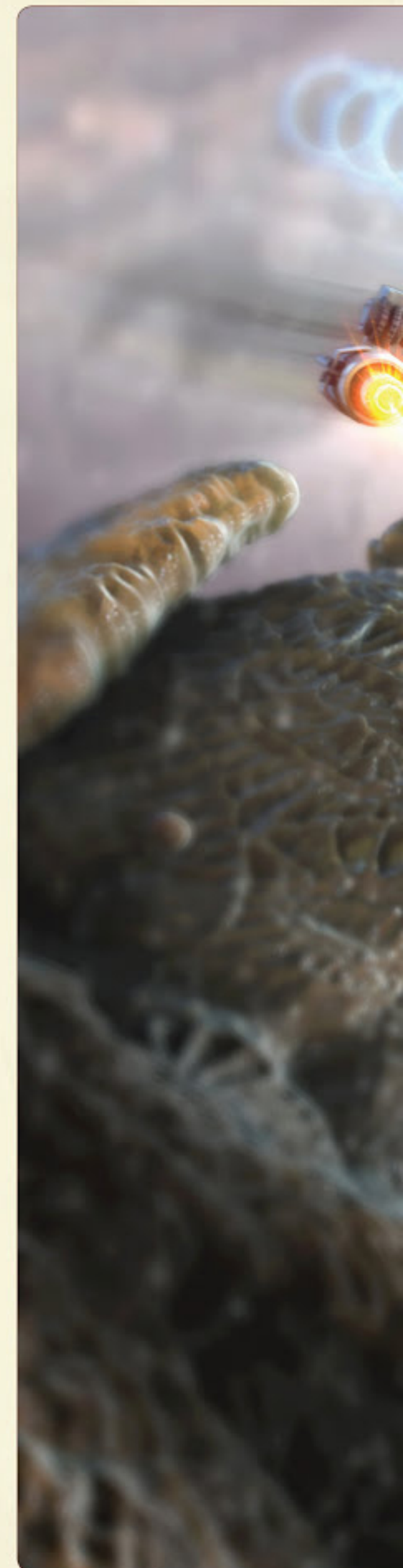




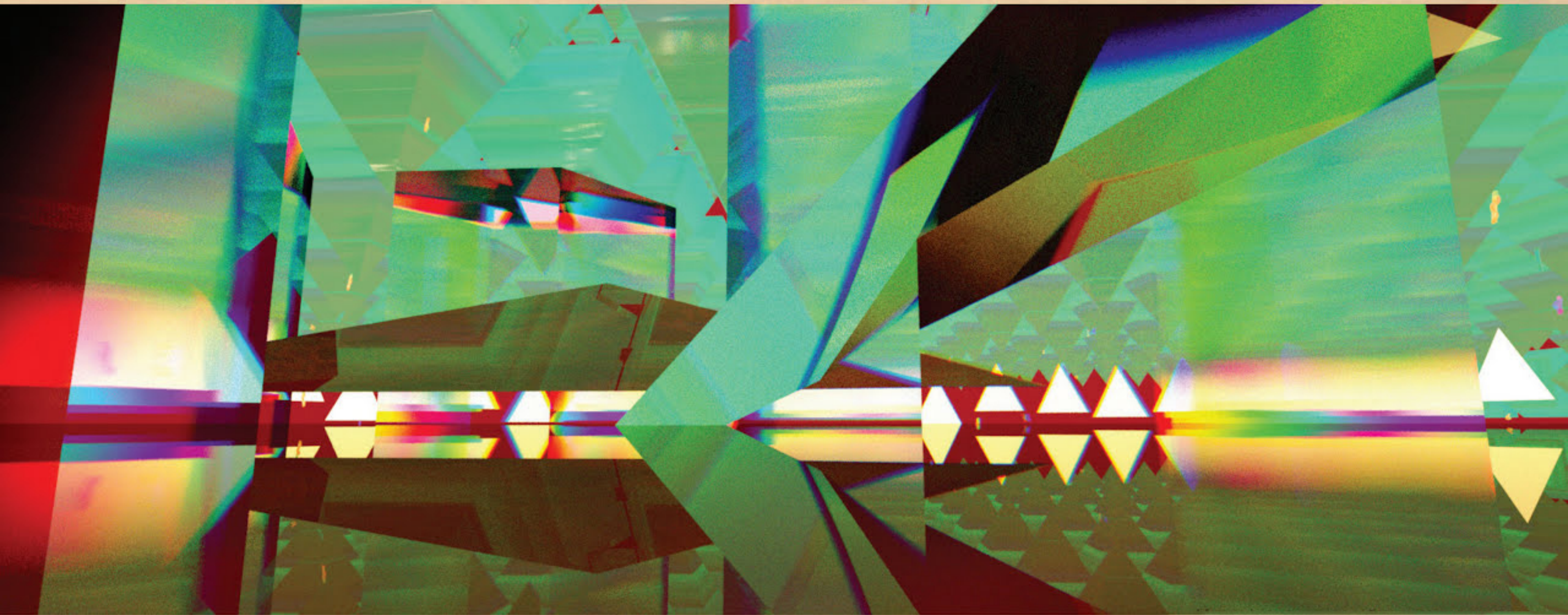
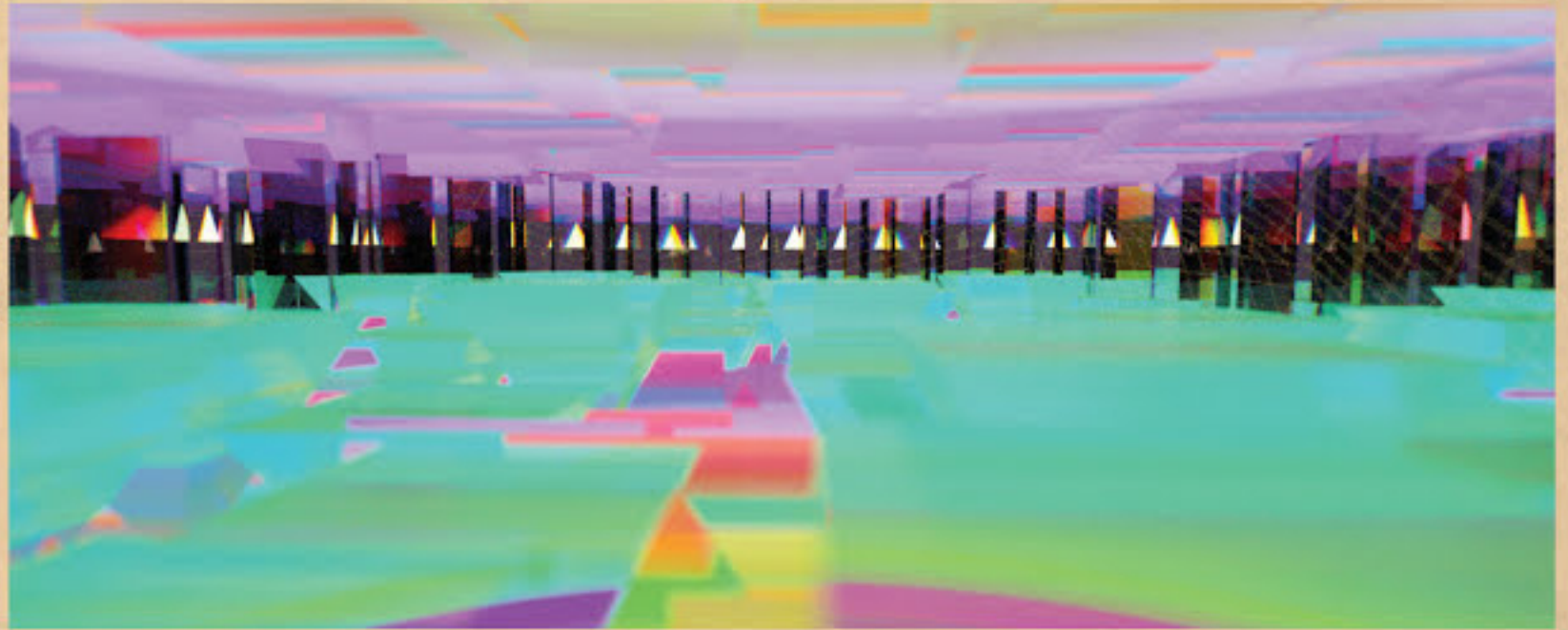
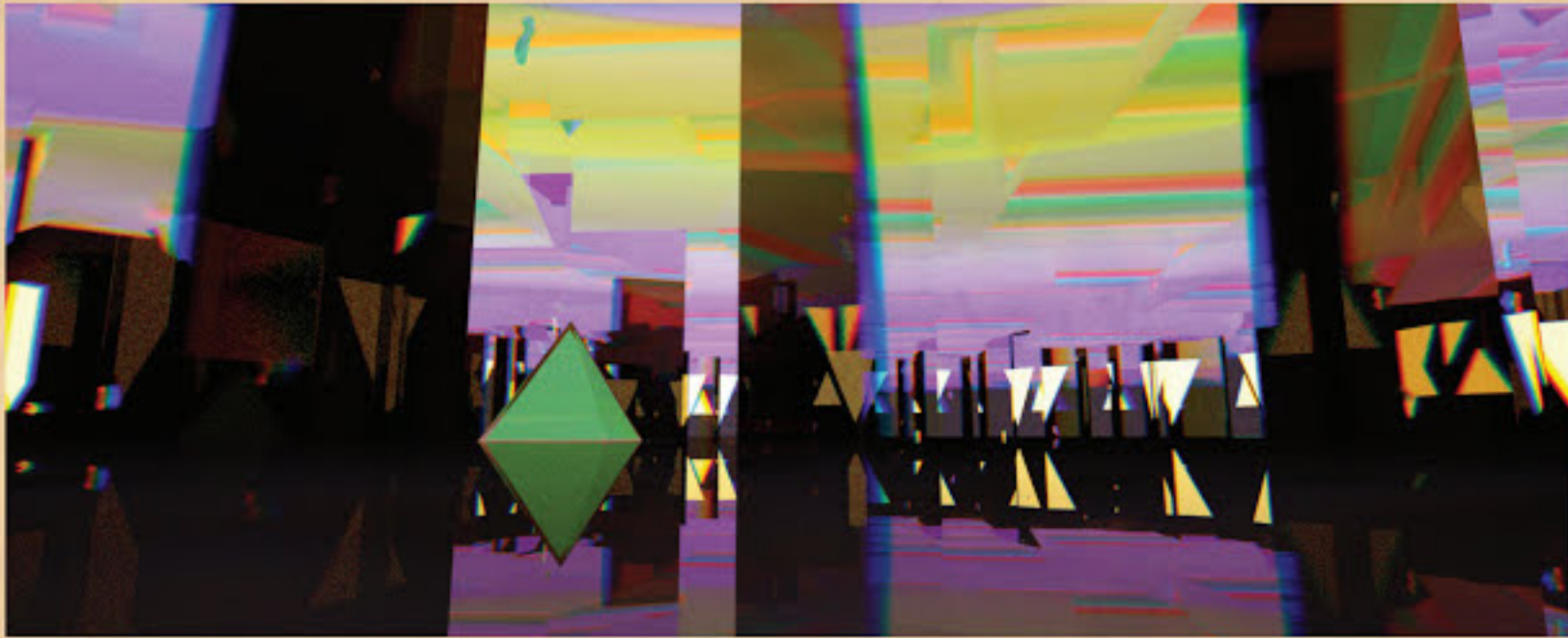
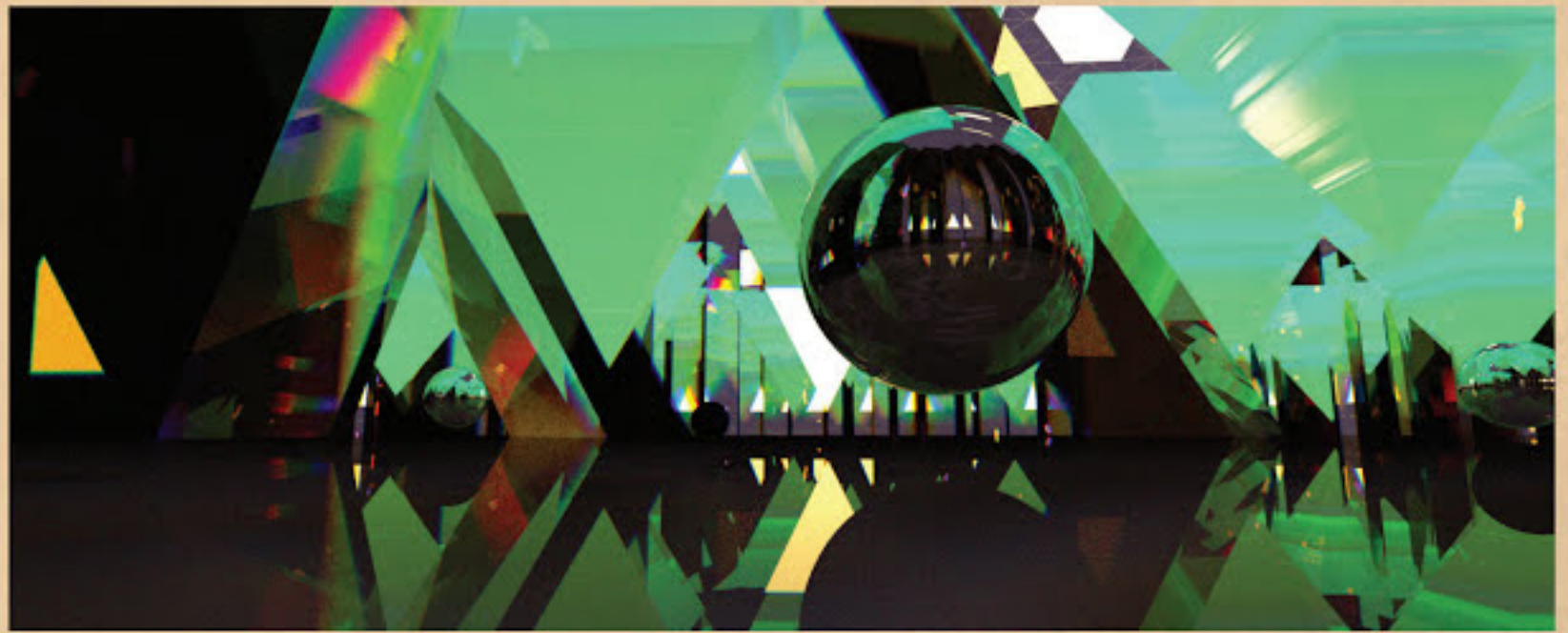
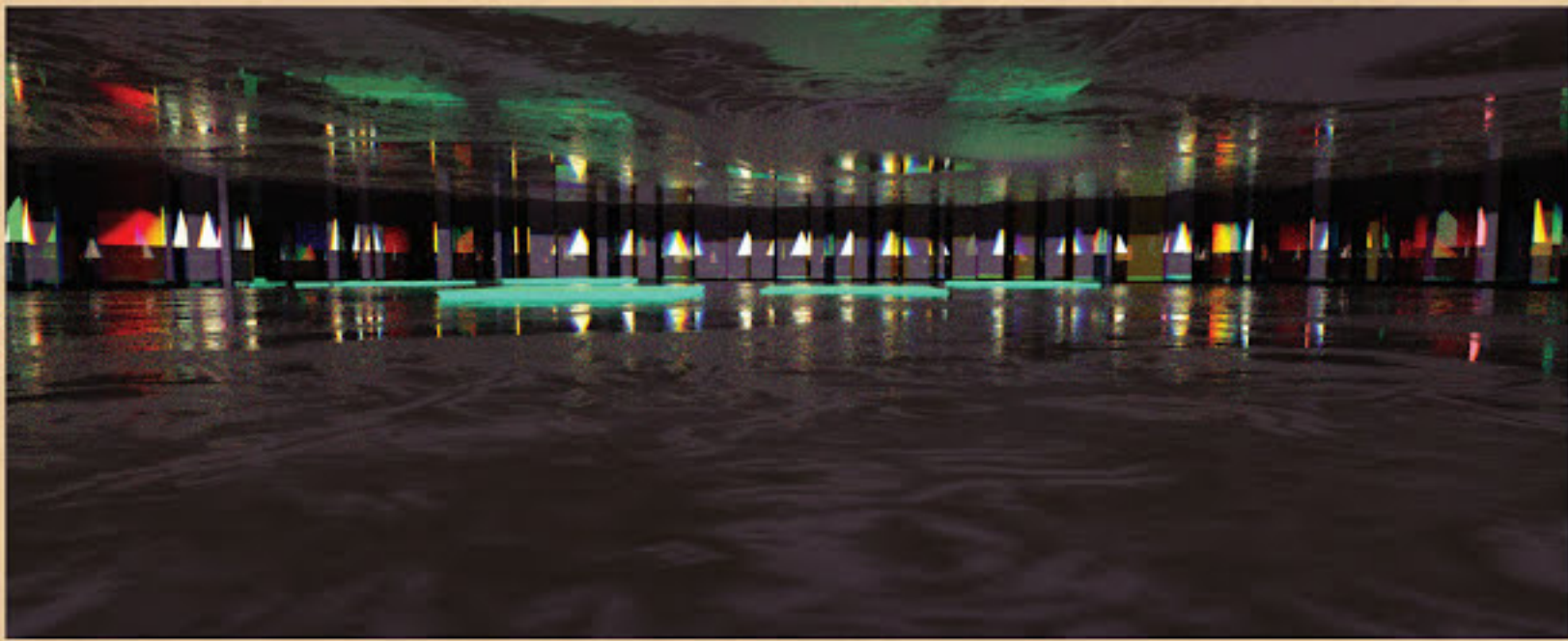
Fig. E.1

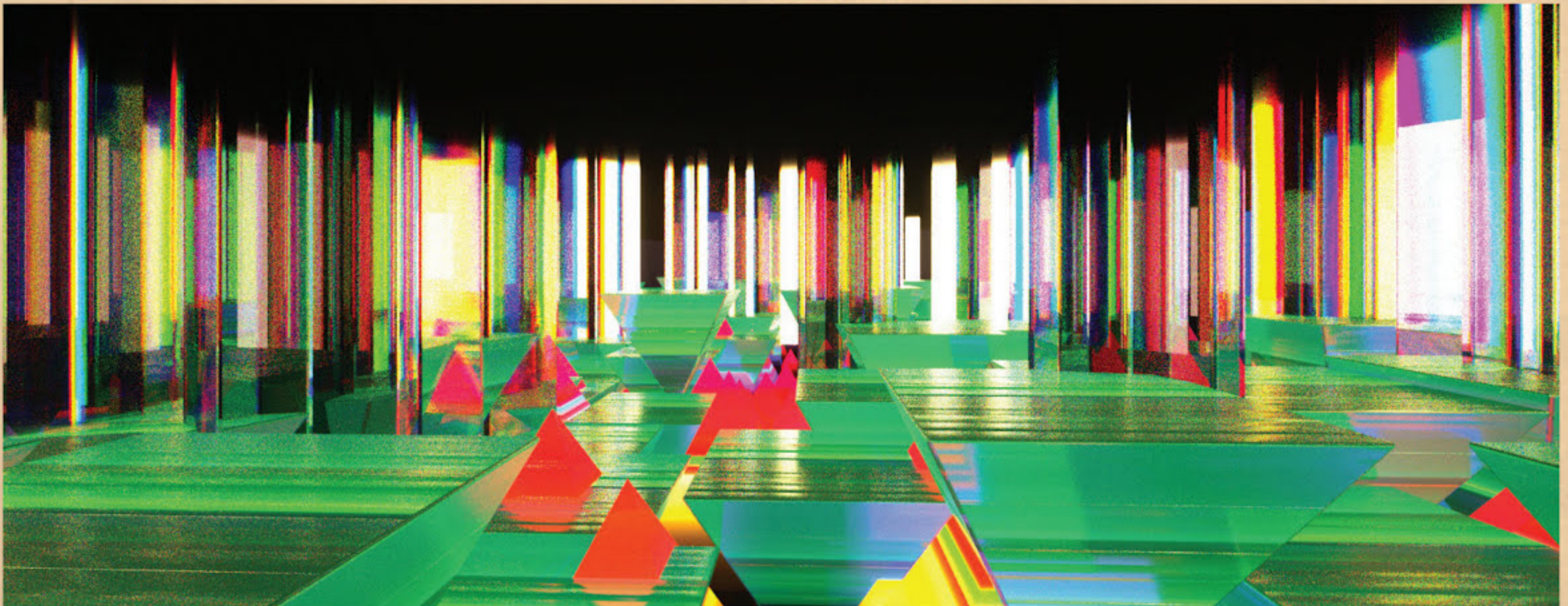
“THE NANO MED-BOTS came about during the pre-scriptspitballing phase,” Summers says. “At the time, we were thinking it would be a *King Kong: Skull Island* situation, with Ant-Man and Wasp in constant struggle with the native creatures of the Quantum Realm. I thought

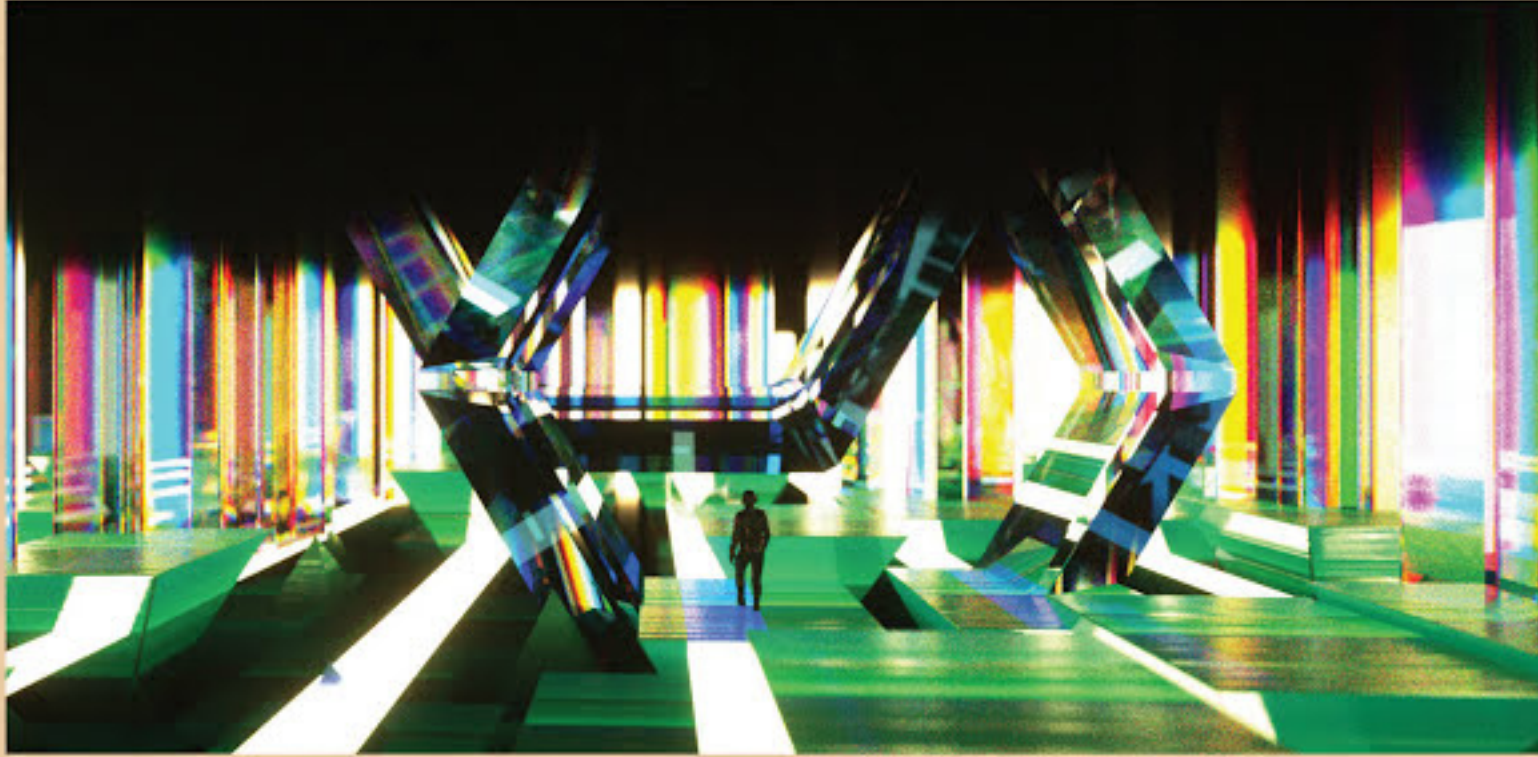
it would be interesting to have a manmade threat sent in there to contend with also. In this case, Nano Med-Bots were originally designed to heal disease at a microscopic level, but were weaponized and sent by some nefarious faction to end our heroes.”



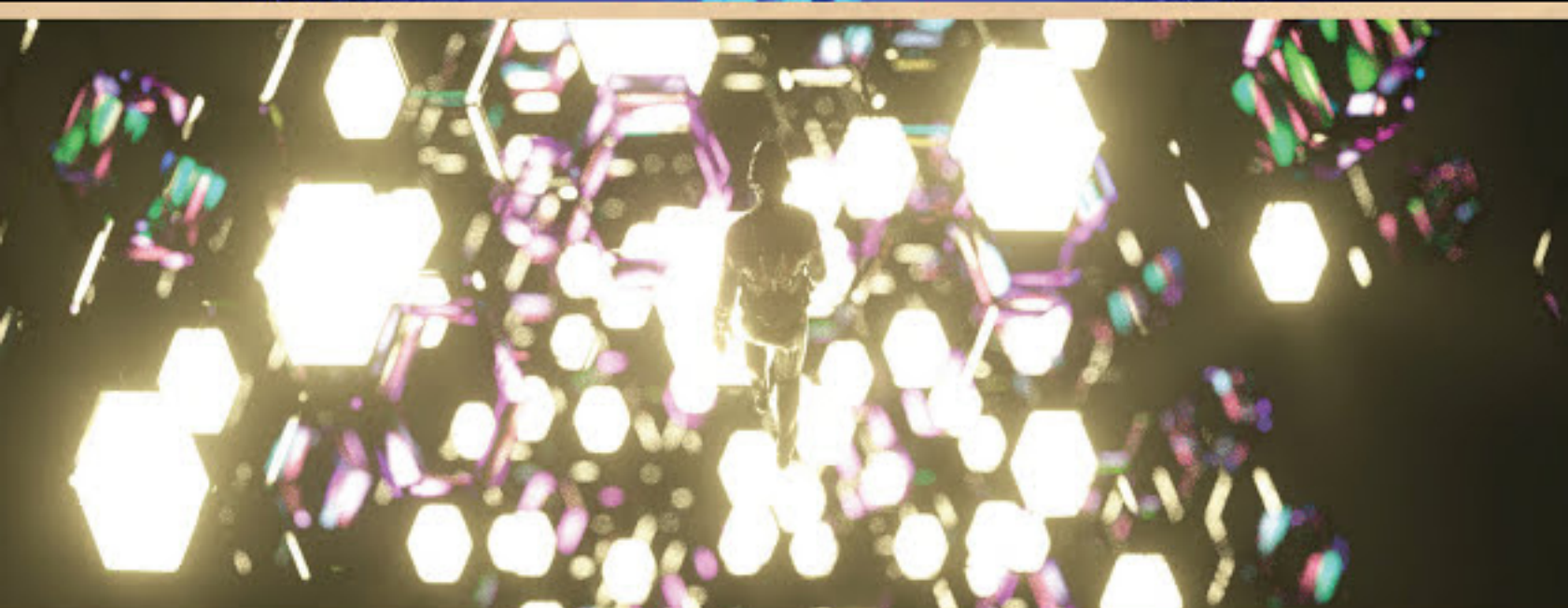
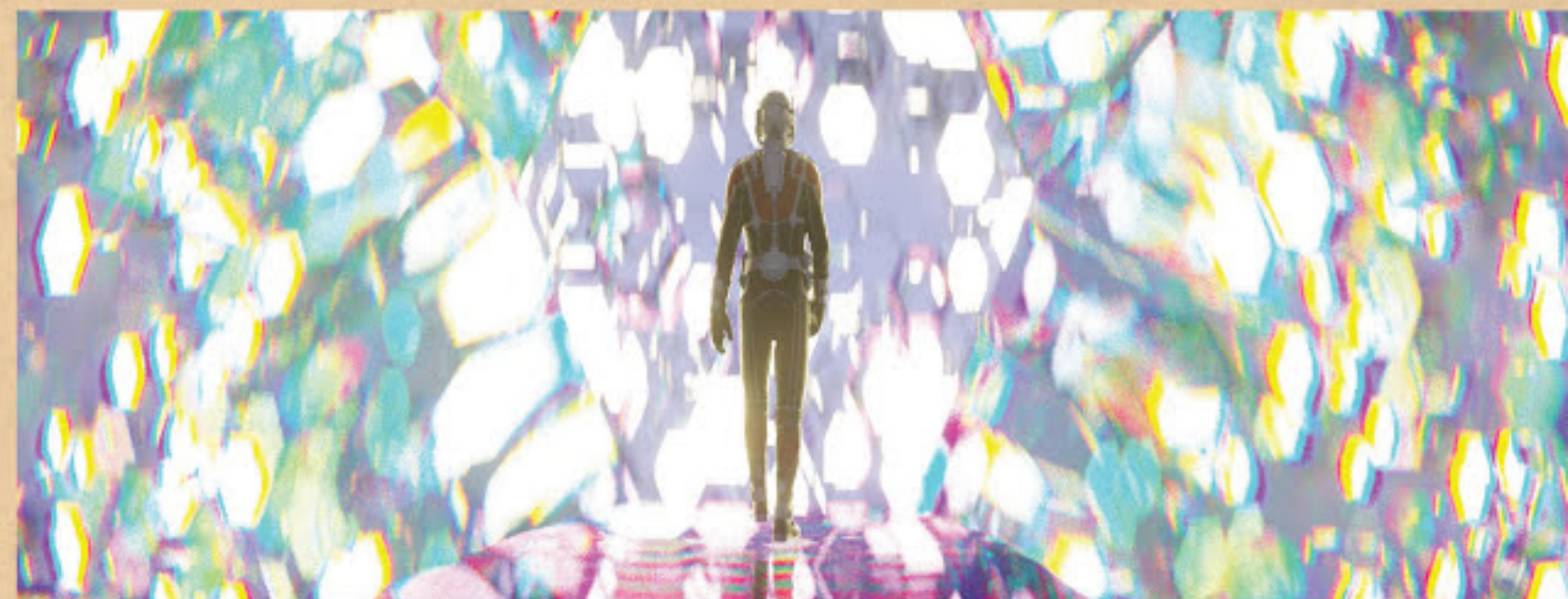










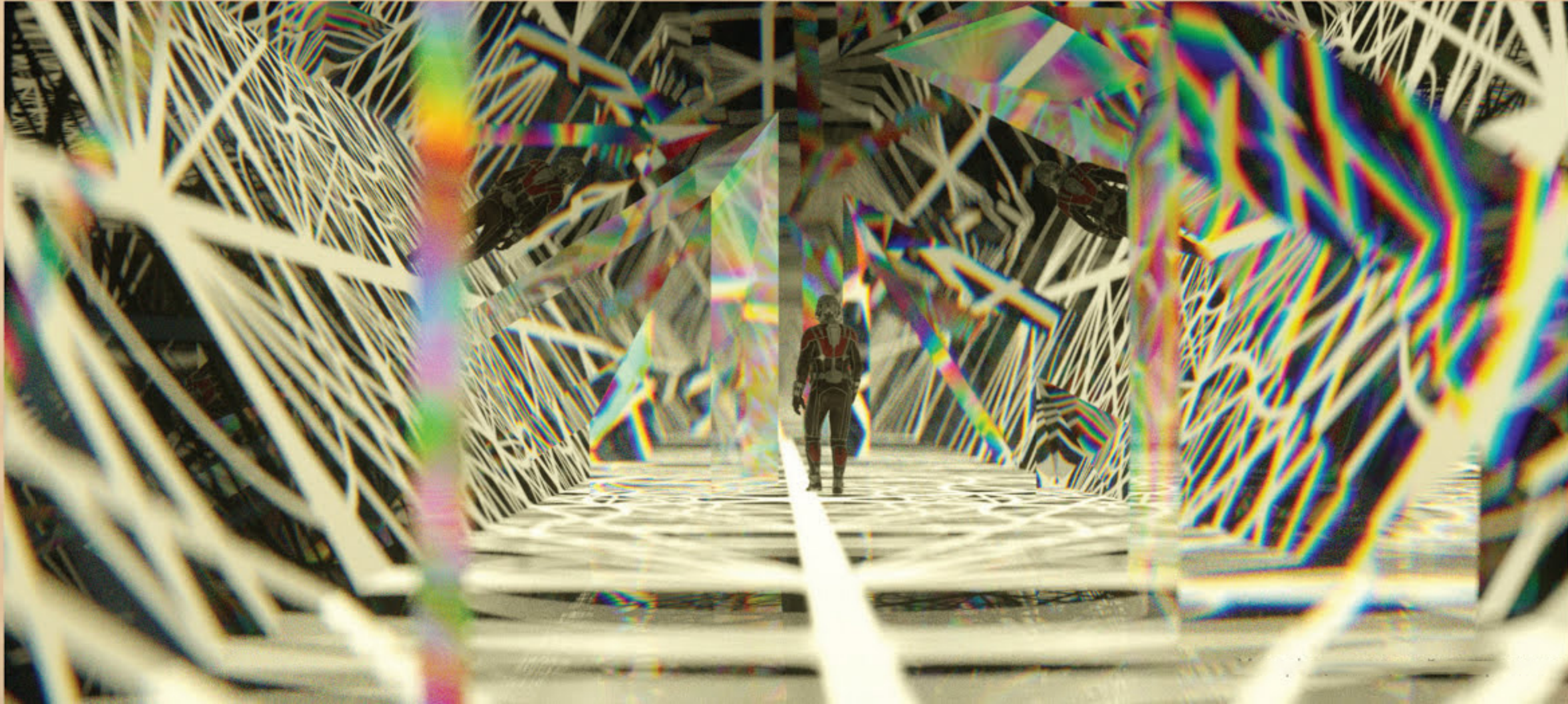


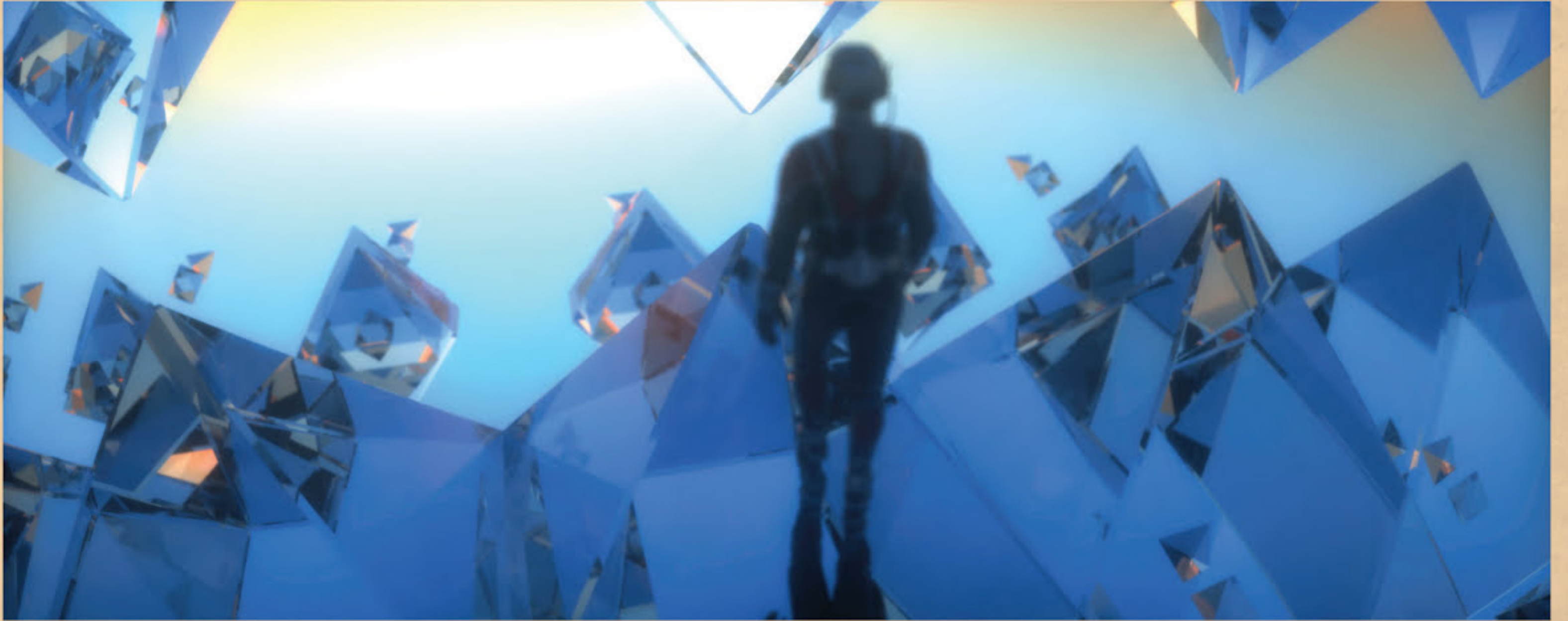
"At the end of *Ant-Man*, we followed Scott Lang into the Quantum Realm for the first time—and for Marvel Studios and the MCU, it was the first time going into an environment that was so strange and so out there and so trippy," Marvel Studios President and Executive Producer Kevin Feige says. "We always knew that we were beginning to peel back the onion that would later be completely in *Doctor Strange*. So that was our little test into that. Now that Quantum Realm is a whole other territory and a whole other terrain that we can play with to tell our stories. Is Hope's mother—Hank's long-lost wife,

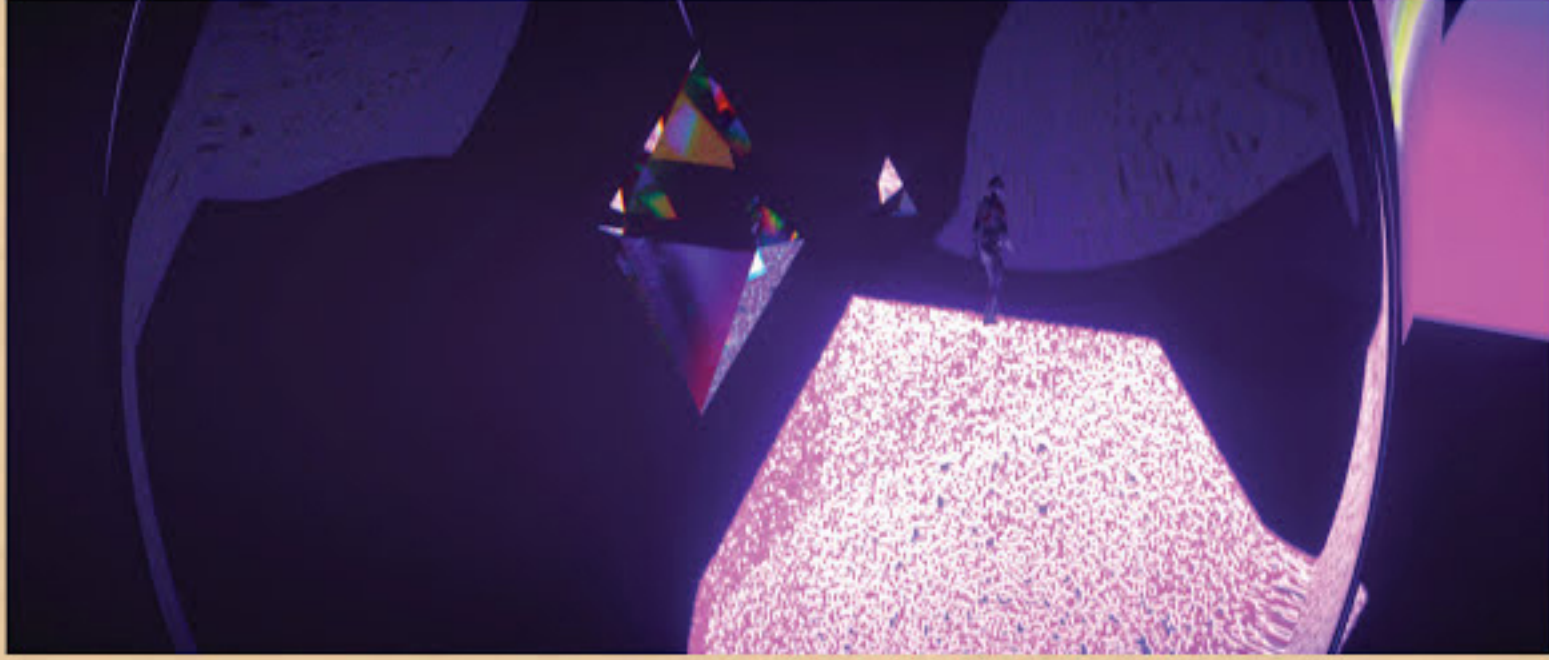
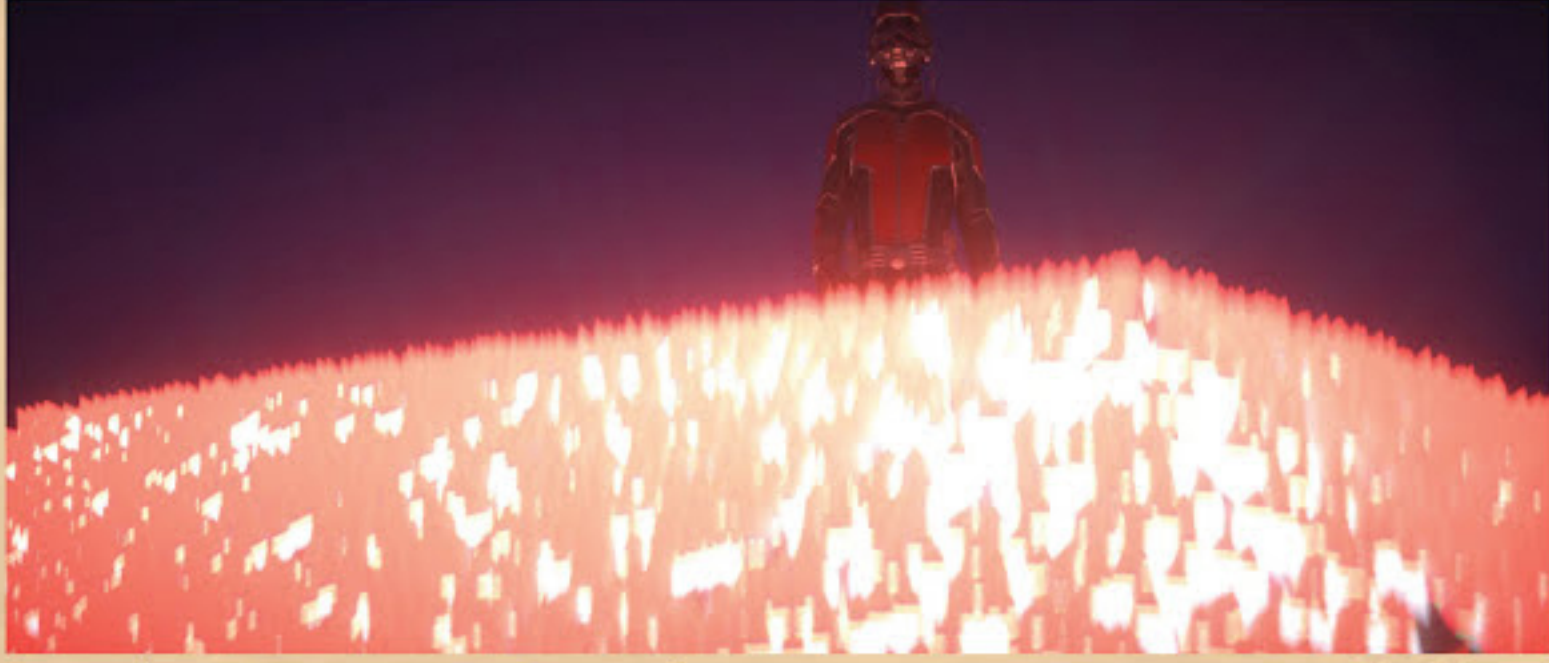
the original Wasp—still down there in the Quantum Realm? That's the crux of the entire film that we're making now. And if she's down there, how can she come out? And if she's been down there this whole time, what has she been doing down there? And this is really a fun, fast film that touches on that subject."

To bring a sense of realism to the Quantum Realm, the filmmakers spoke with experts to ensure they were portraying this universe—and the descent into it—as accurately as possible. "We met with a physicist from Caltech, Dr. Spyridon Michalakis,

who gave us tremendous insight into the natures of atomic and subatomic states," Alonso says. "As best we understand, as you deconstruct the atom and hypothesize about subatomic states, the space-time continuum ceases to exist in the ways that are familiar to us. At the quantum scale, matter and energy behave very differently from what much of our everyday experience would lead us to expect. Time and space behave differently. We wanted to capture this type of confusion and chaos as we told the story of Hank descending into the realm."



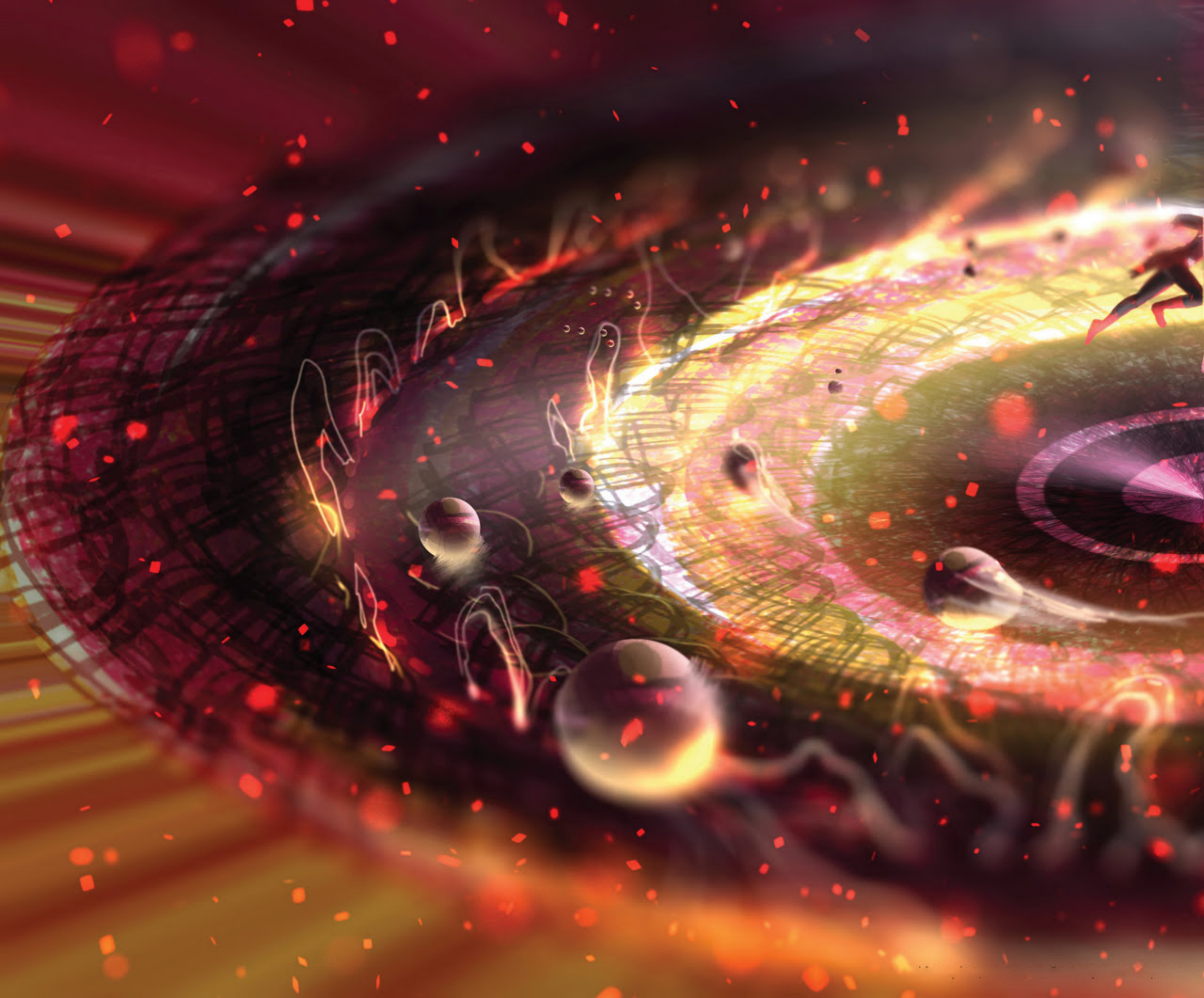






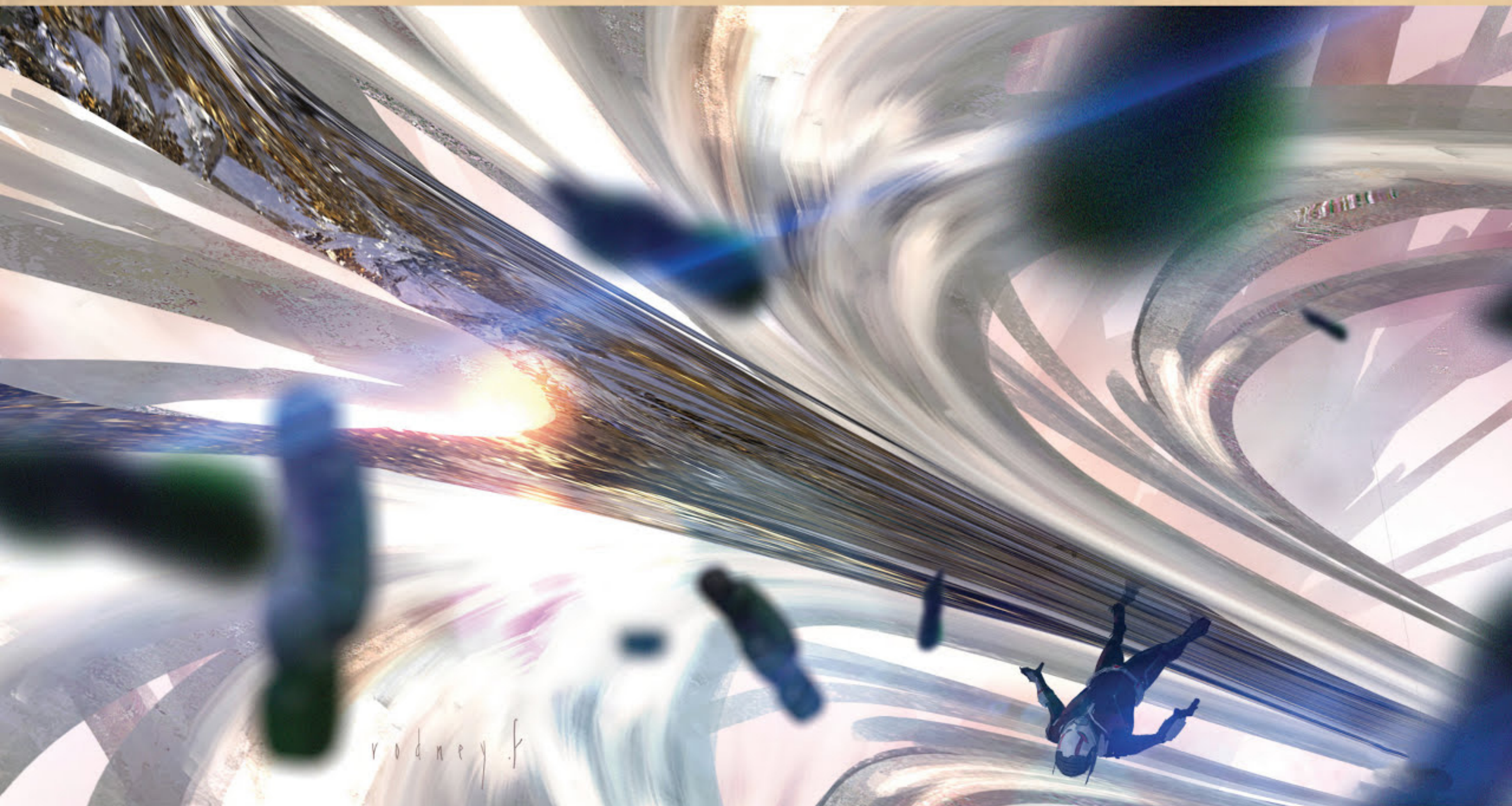
The visuals of the Quantum Realm push the boundaries of viewers' expectations—and that's just the way the filmmakers like it. "I think all of our films are meant to play to a global audience," Feige says. "*Ant-Man* connected specifically with global audiences because of that connection to family, and also because we take you to worlds you've never seen before. That's what people want to go to the movies to see, and I think that's what we deliver in all of our movies."











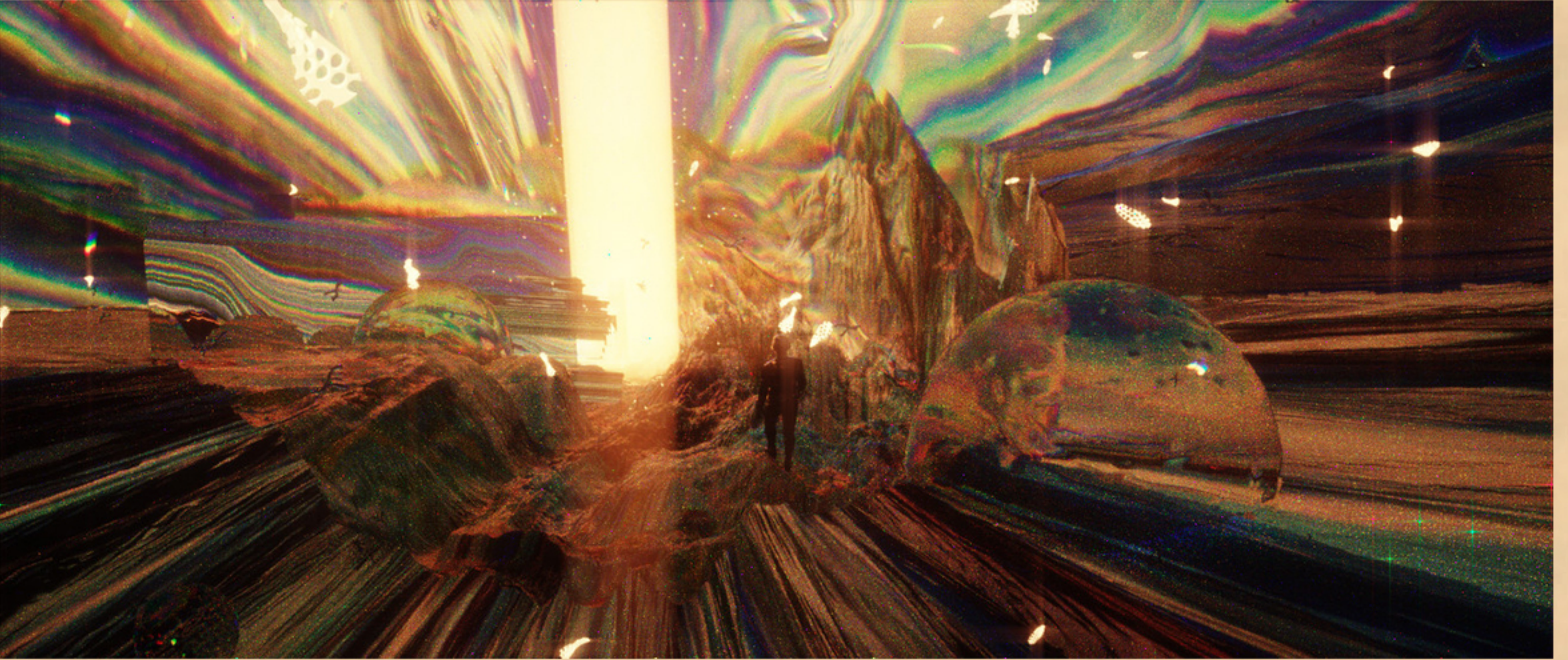
HANK PYM LOG ENTRY:

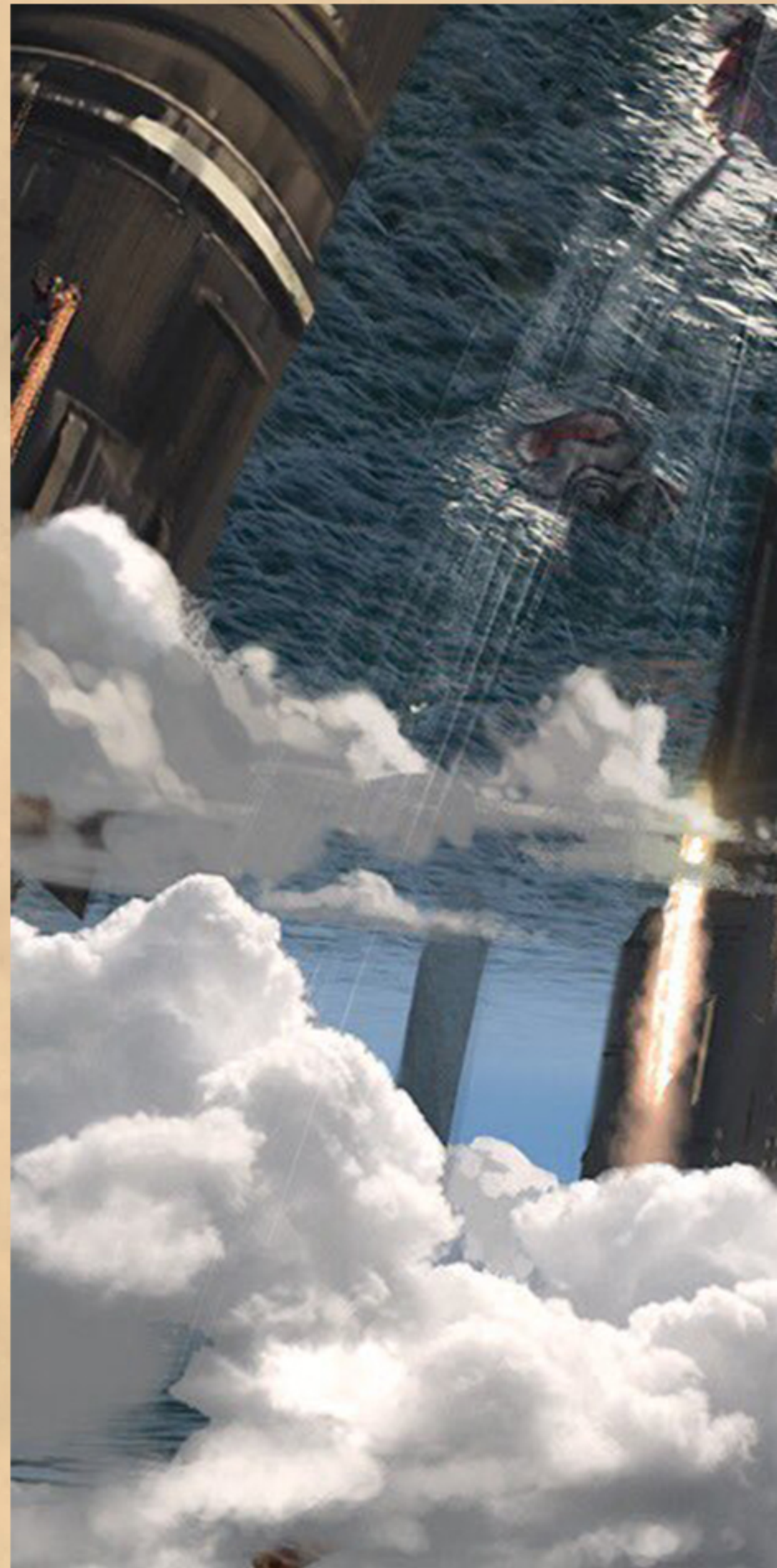
The Quantum Realm is more vast and strange and oddly beautiful than anything I could have possibly imagined. Scott's description doesn't do it justice. And while survival seems like an uphill battle in this environment under these conditions, if anyone could do it, it would be my Janet. She's always been determined and resourceful. — **H.P.**

Exploring a variety of ways in which to represent the Quantum Realm, the Visual Development team took inspiration from both science and art. "We were trying to figure out what kind of effects being in the Quantum Realm would have on matter, or a person," Concept Artist Jackson Sze says. "That top image was about if things get split into a spectrum of light while you're in there. Basically breaking down white light—which is made up of the entire spectrum of light—to create other colors. We were thinking

that in there, there might be some particles that would actually disperse your color range and you could get duplicates in blue, green, or red. It might just be an interesting effect. The bottom image is just to show how mind-bending it is to be in the Quantum Realm—just super-trippy surreal stuff where you end up talking to yourself. And the entire landscape is just made up of himself because the human brain cannot process what's going on there."



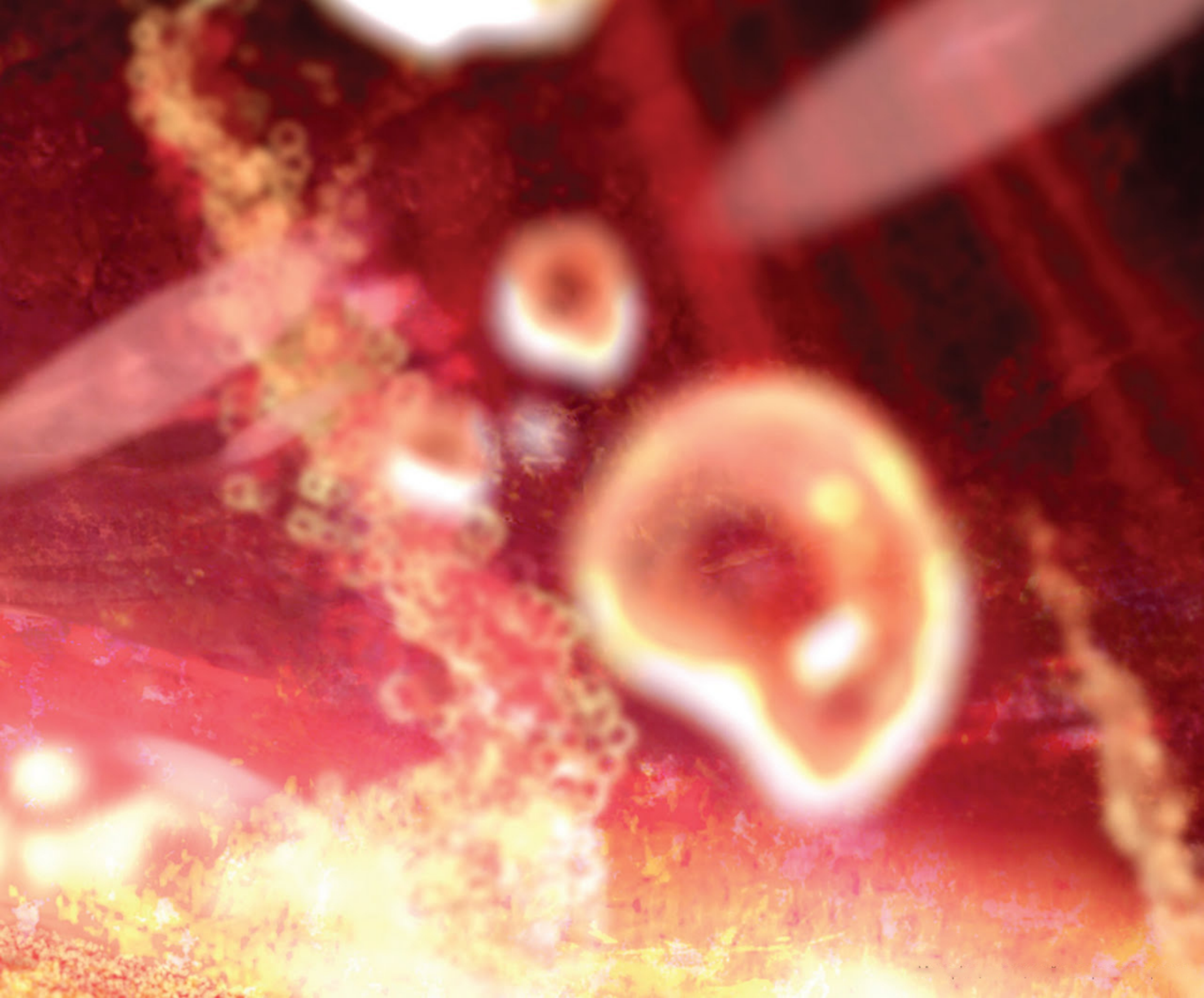






Jackson Sze '16







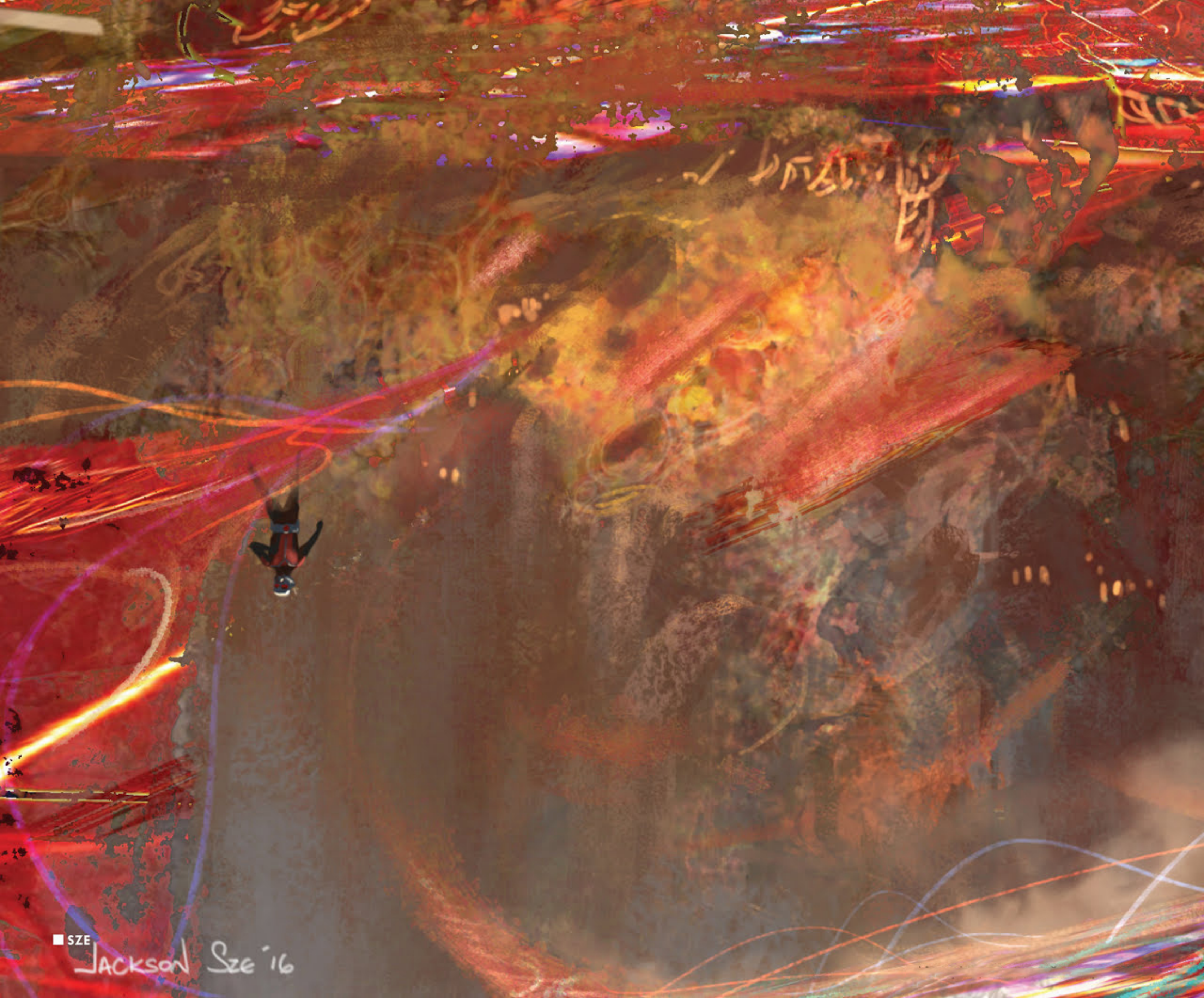


LIFE AT THE QUANTUM LEVEL

"They were really just trying to find interesting visuals," Sze says of the filmmakers. "It was really fun to kind of explore a surrealistic environment where nothing has to make sense. Sometimes, I was trying to channel something like a Vincent van Gogh

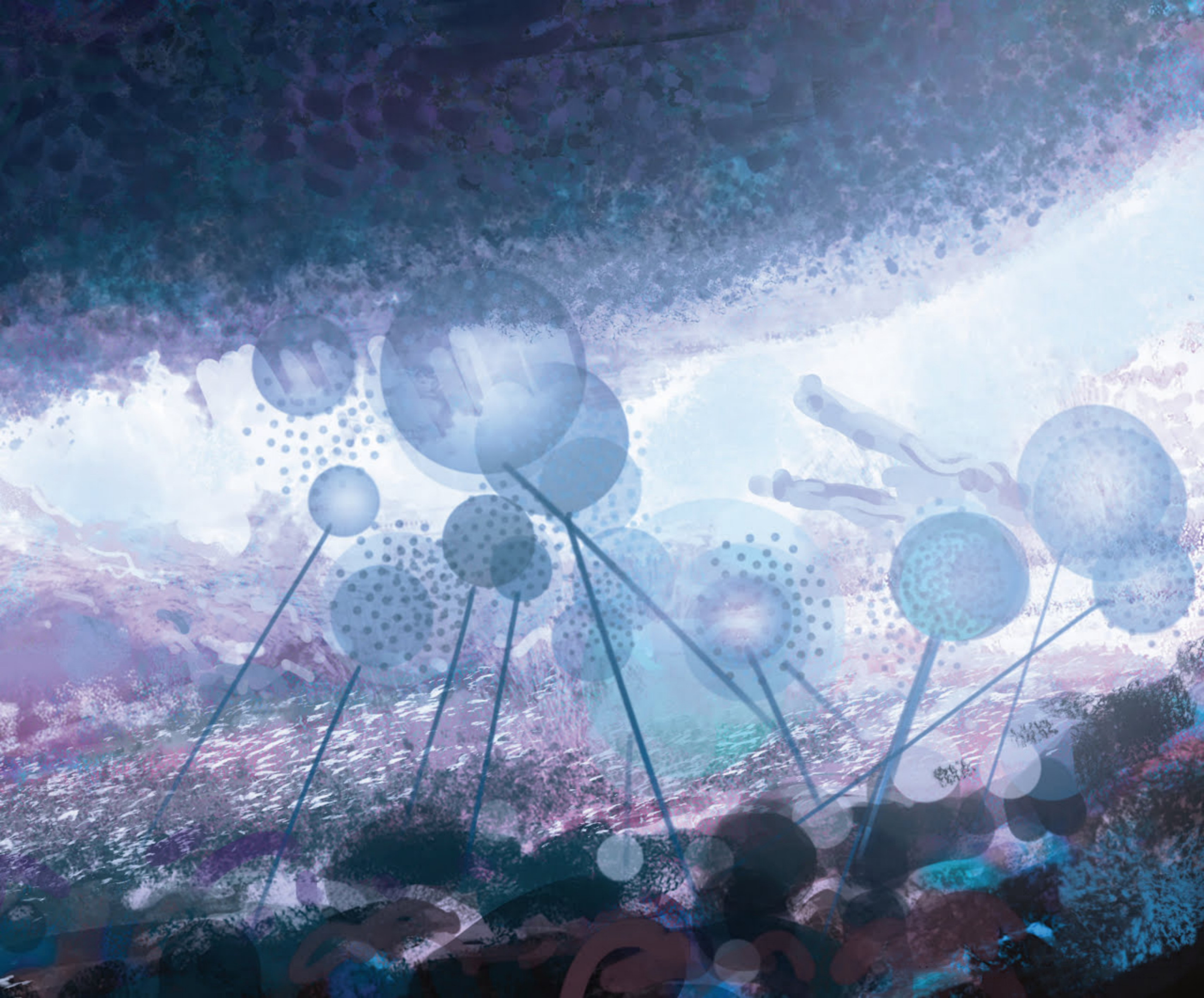
Impressionistic painting—the way matter and material is different, almost like paint strokes, or making everything super-colorful. Maybe even having some friendly creatures to commandeer in there. It was all about finding interesting lighting that is not

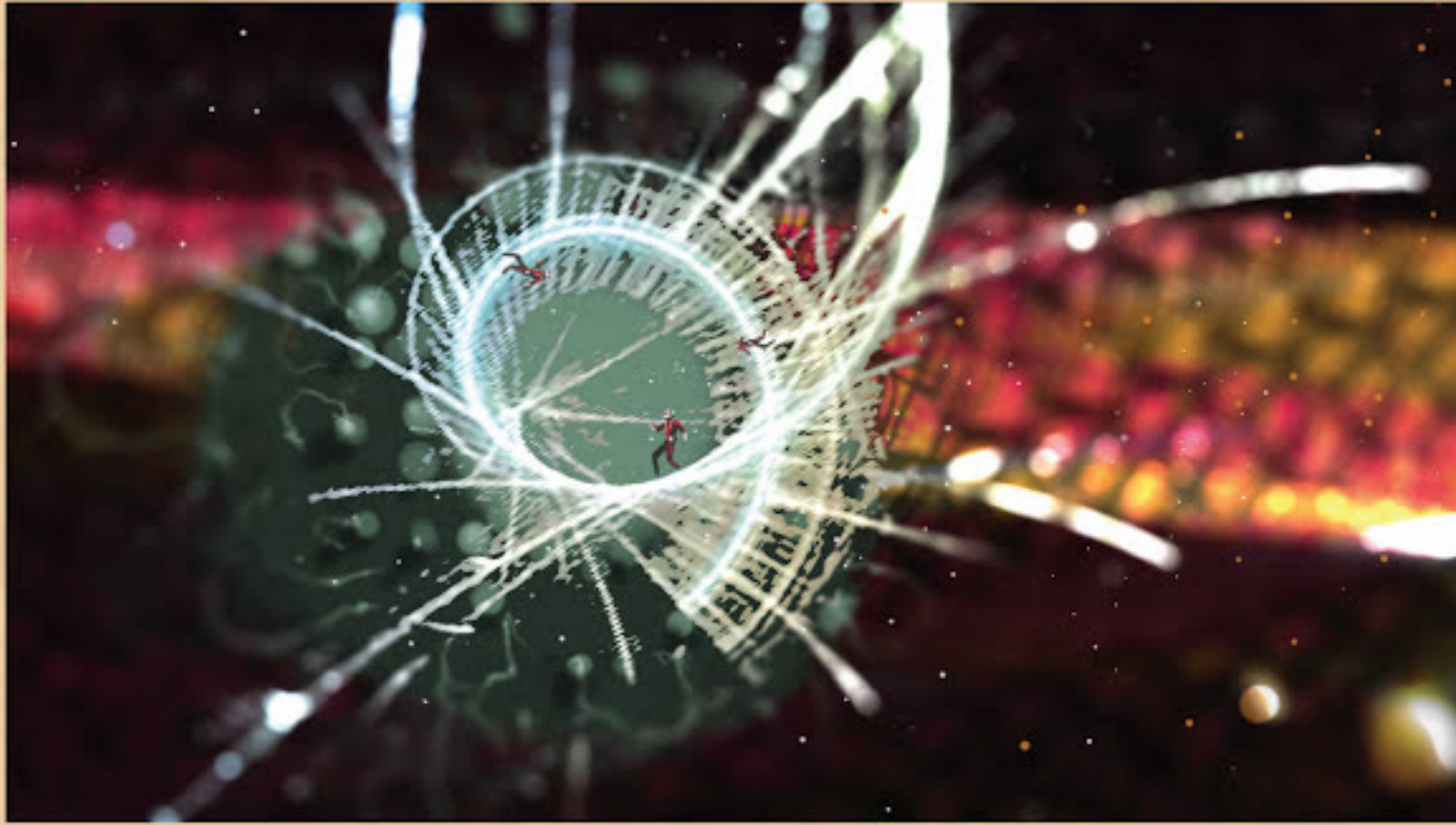
Earth-based, or lighting that we aren't used to and a saturation of colors because we are not really in the real world anymore. That normal rules don't apply. It's almost like there's no limit to what can happen in there because we are making up a new reality."

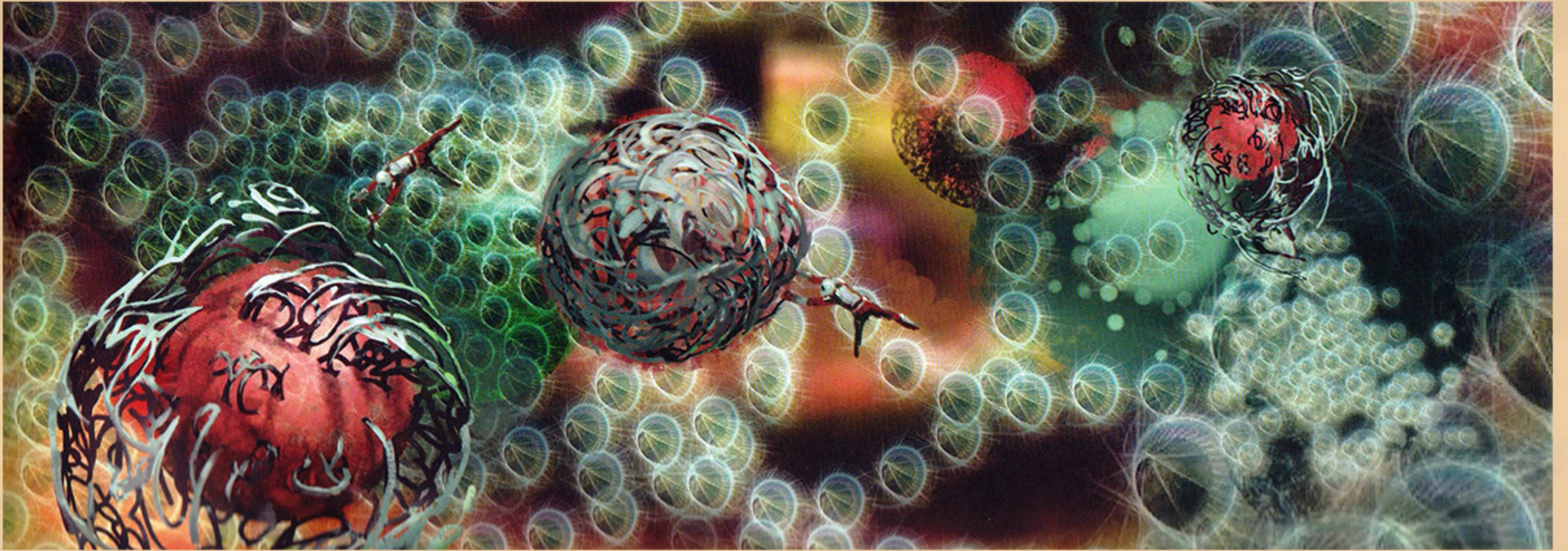
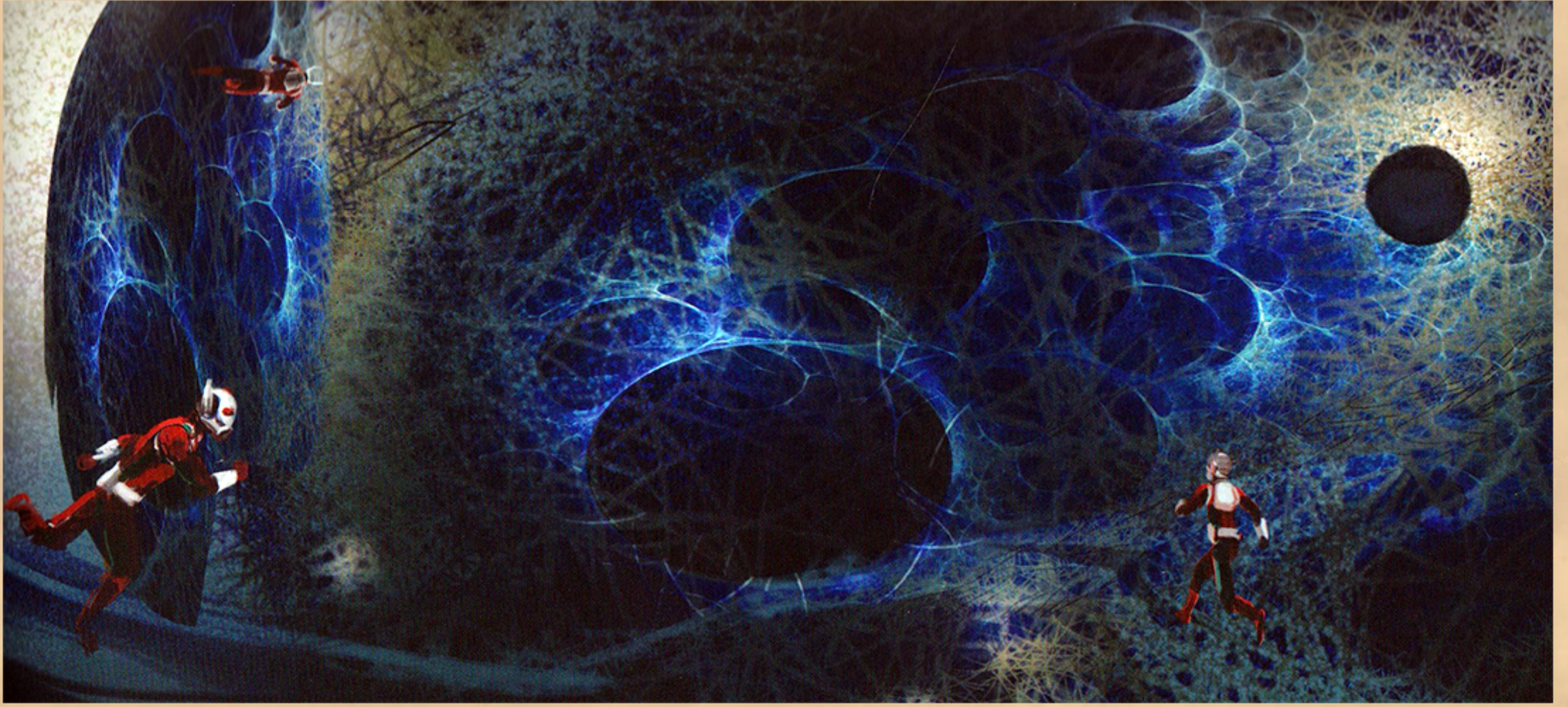


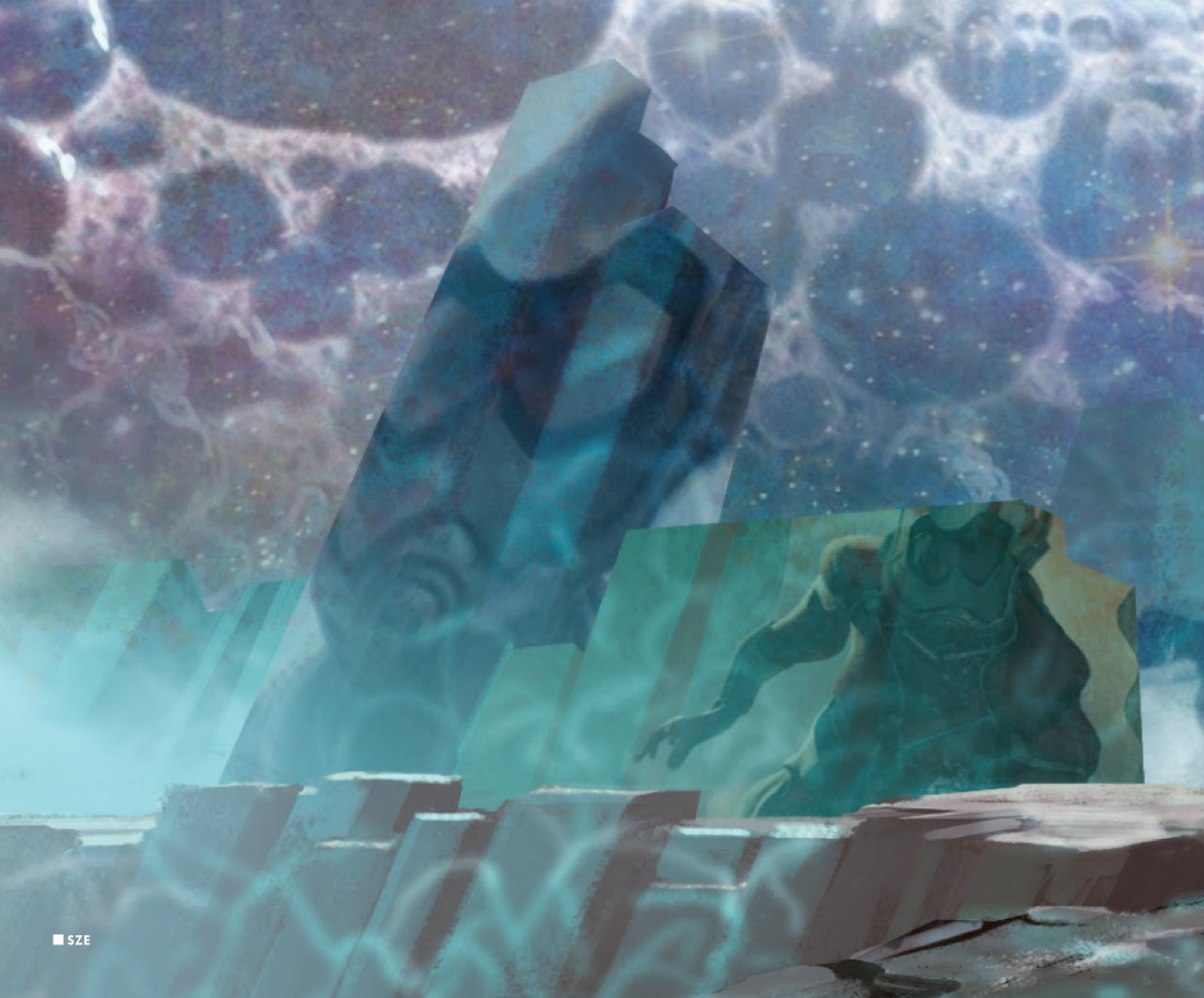


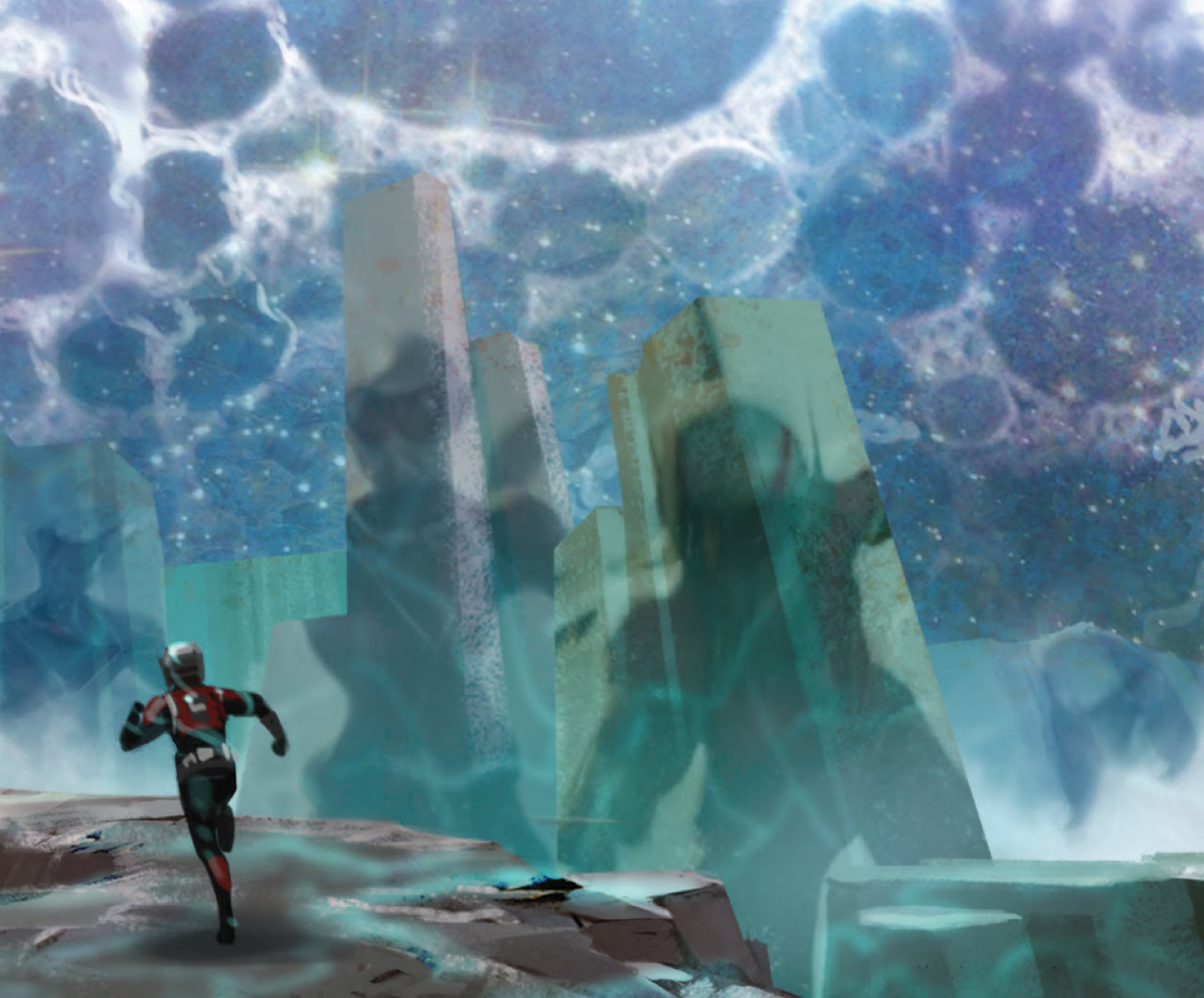








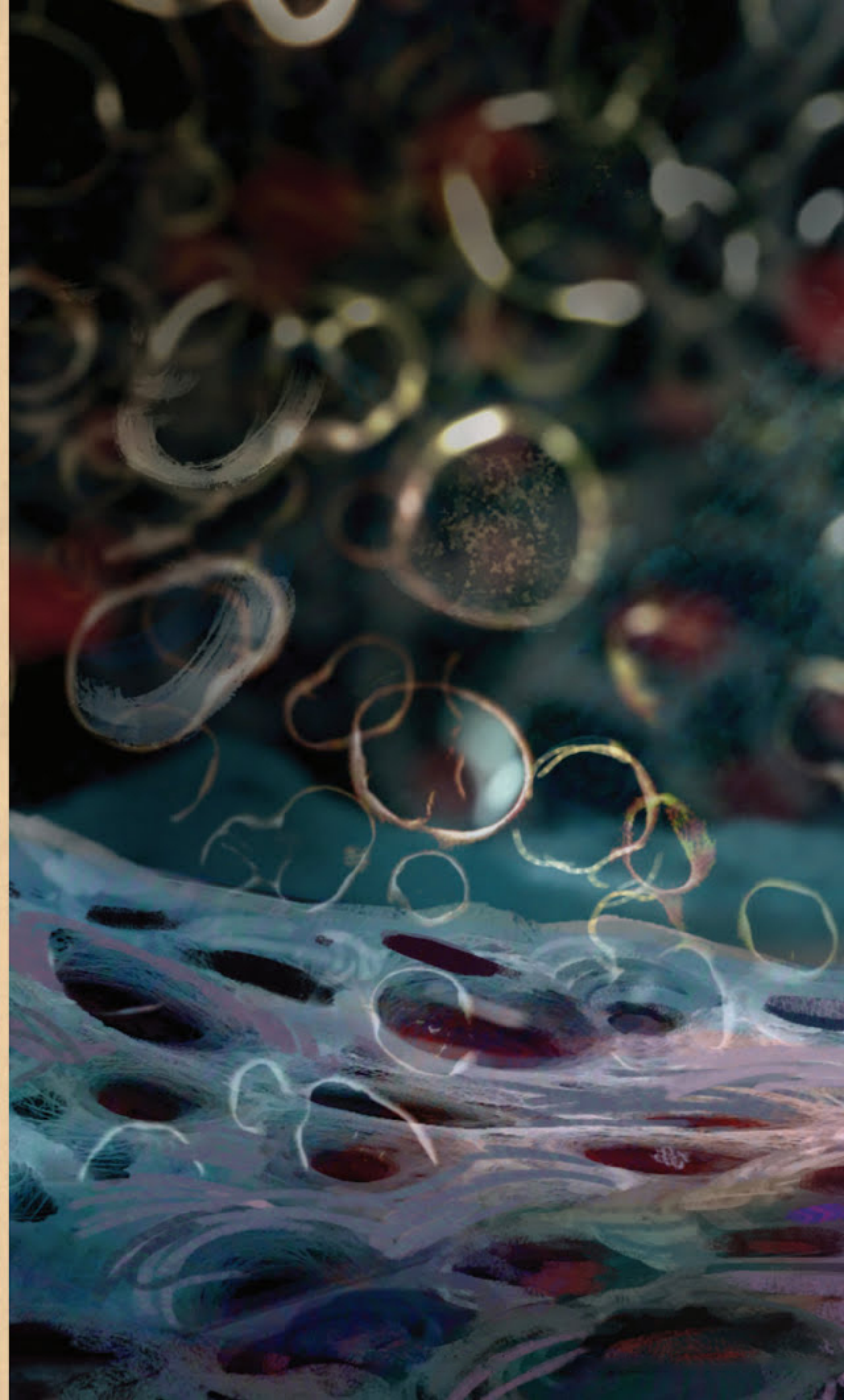
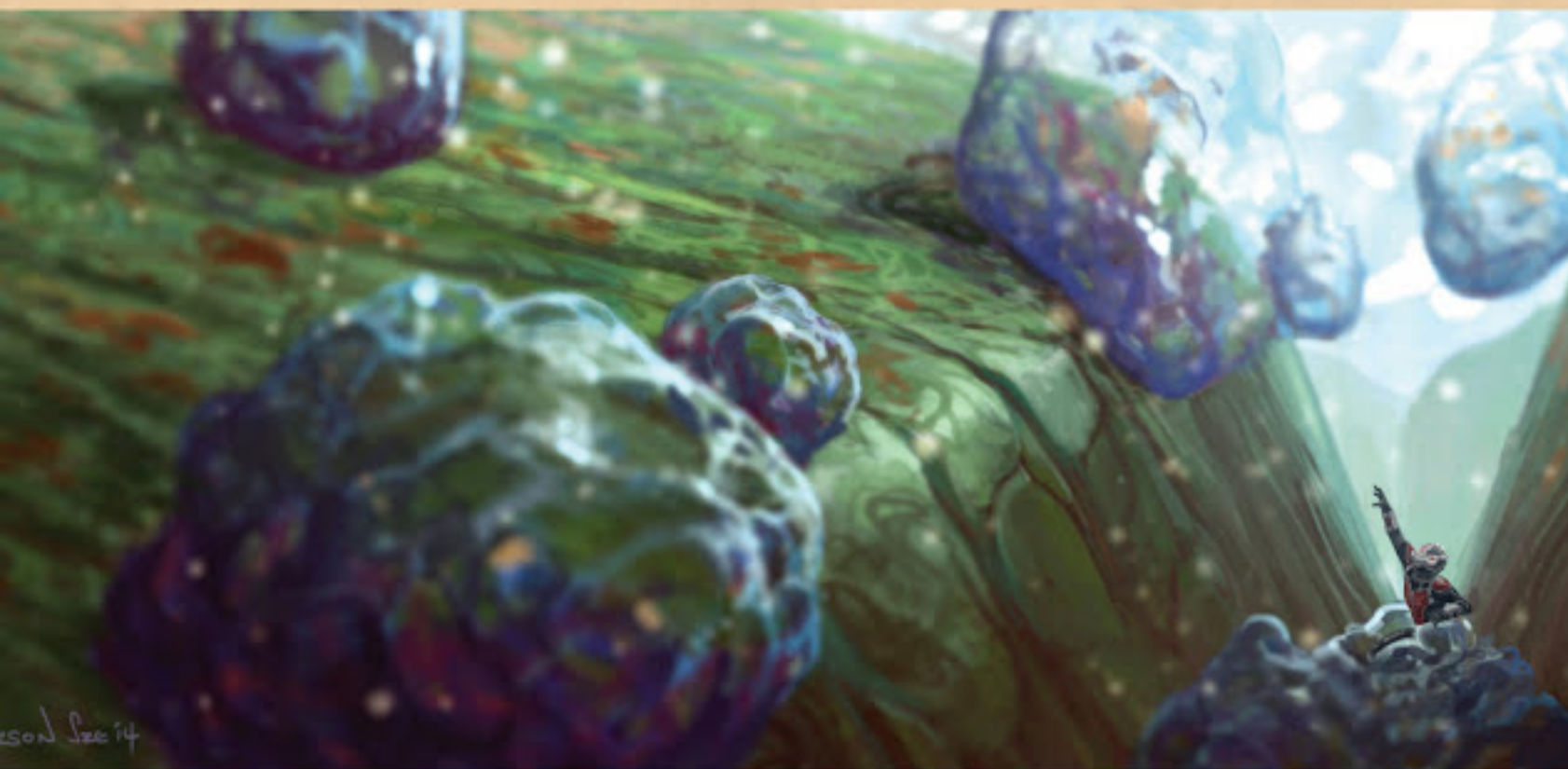
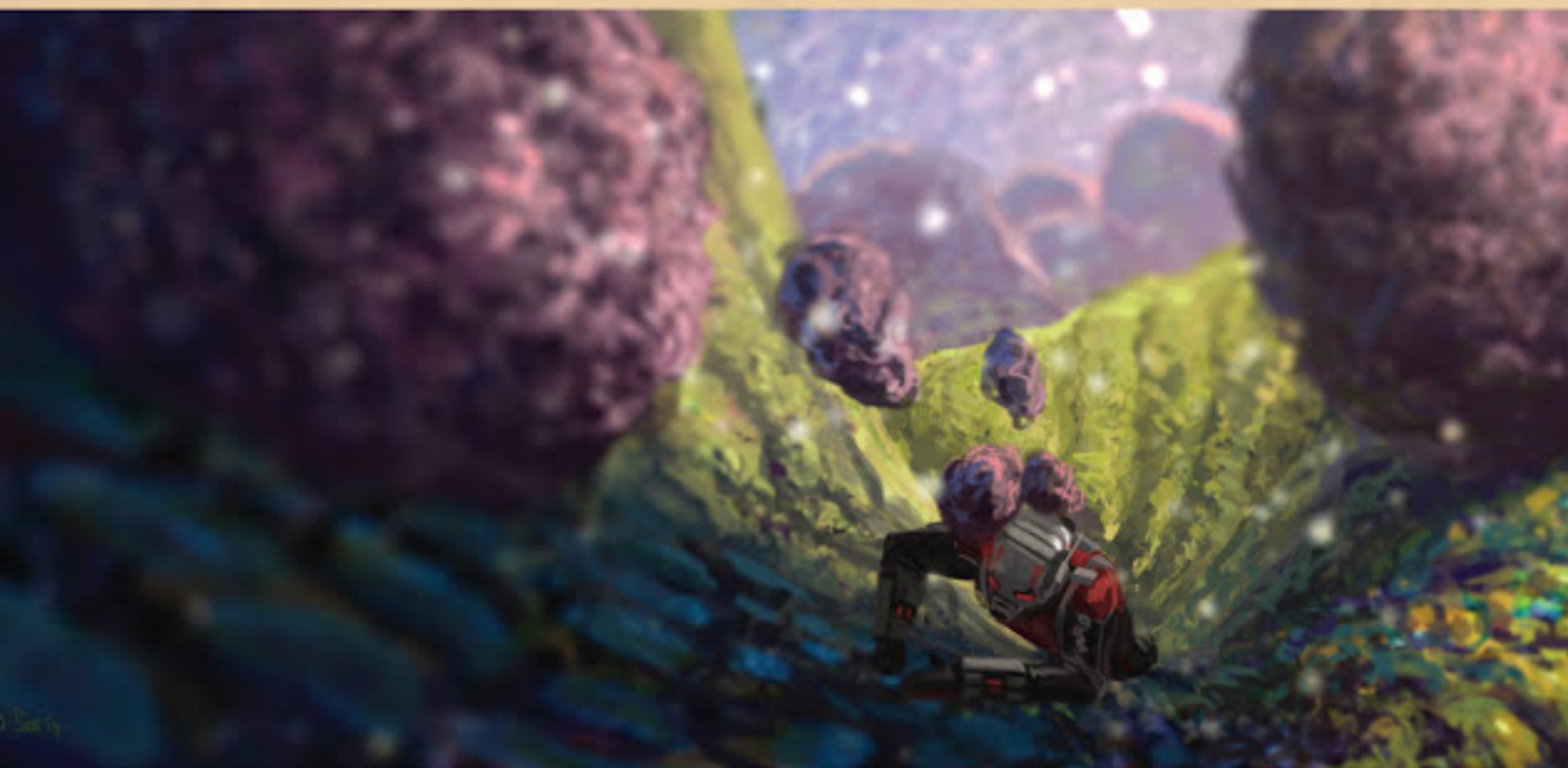


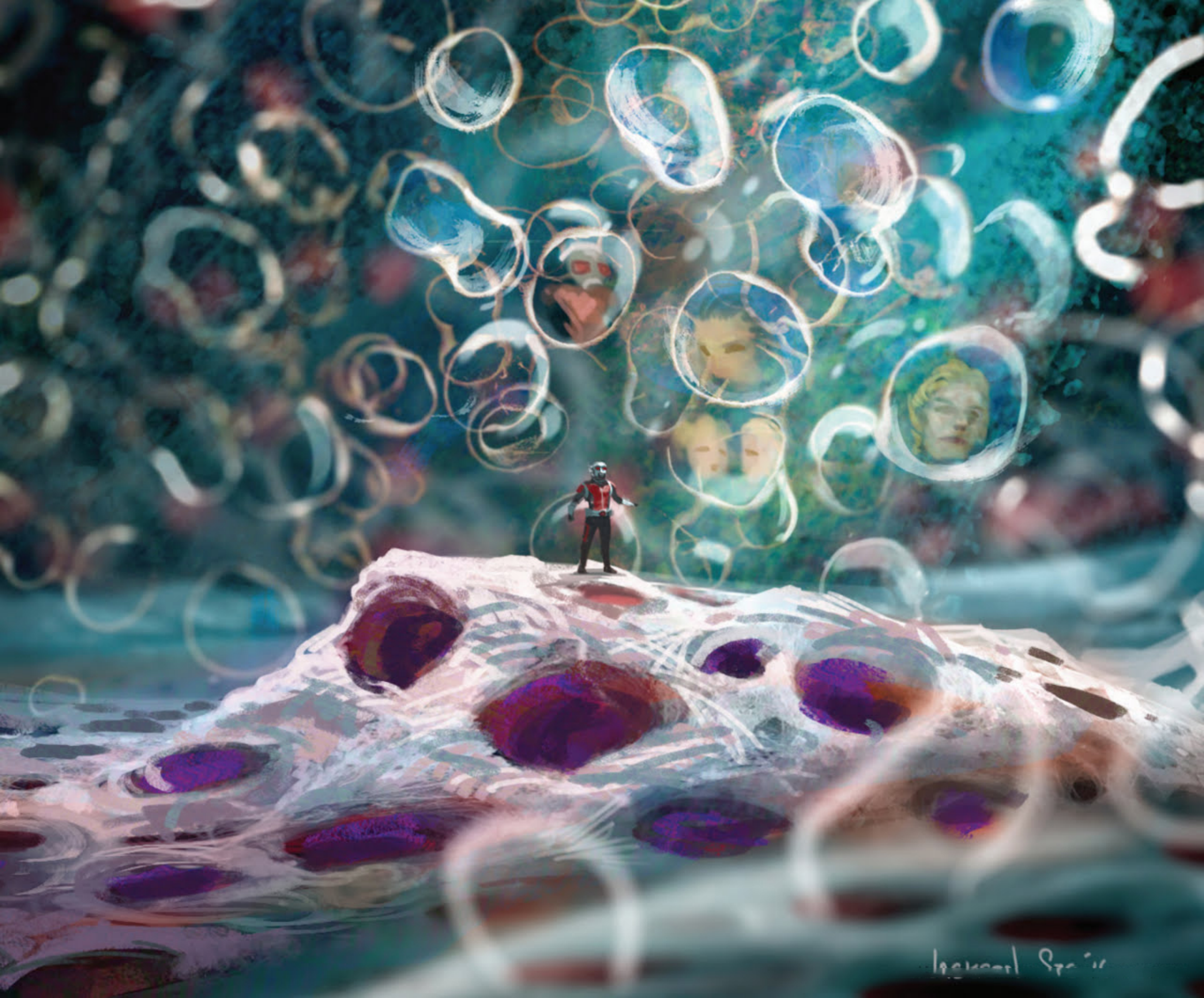






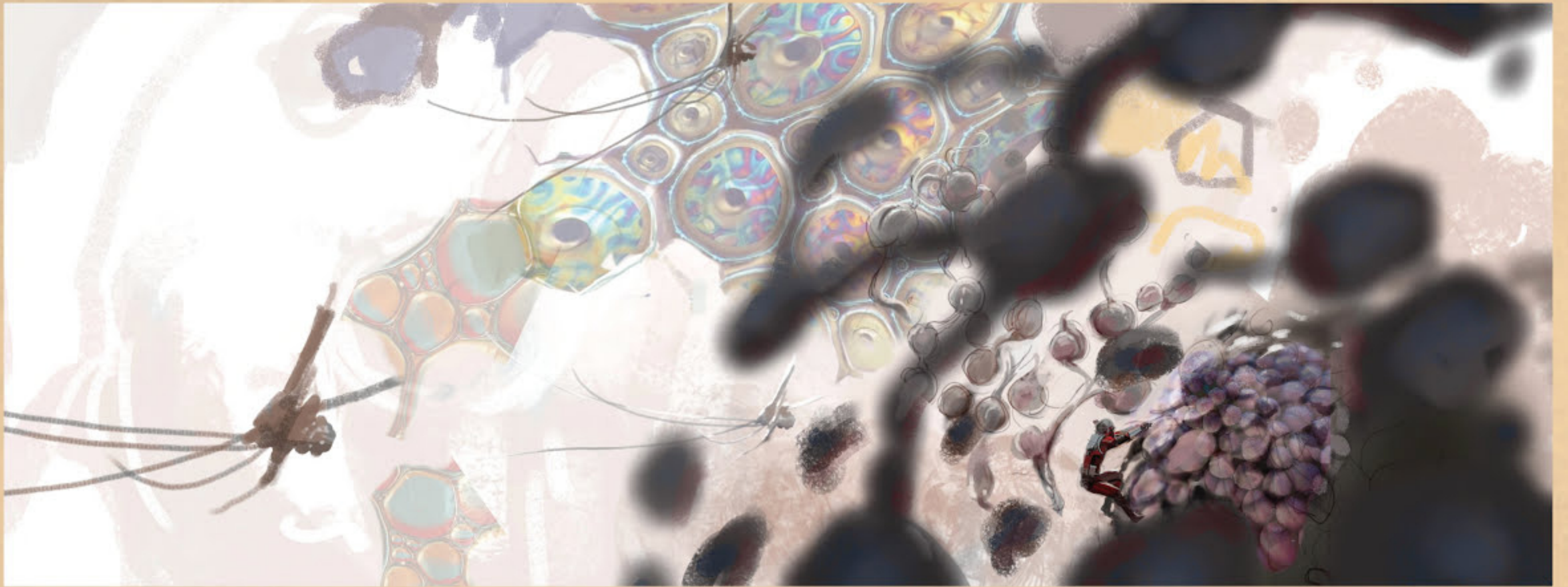
JACKSON DEC 14





Leonard S. Jr.







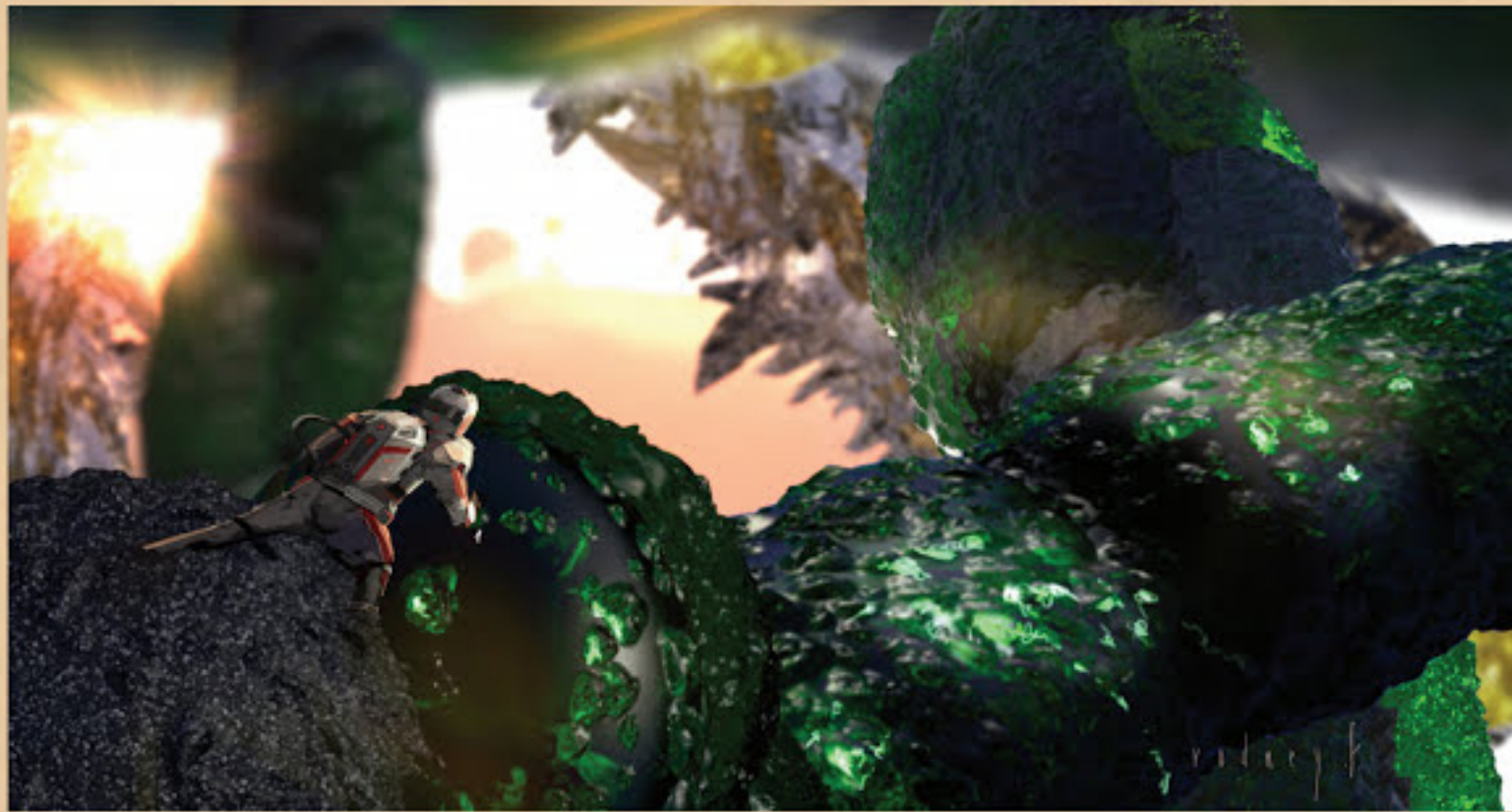
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Jackson Sze



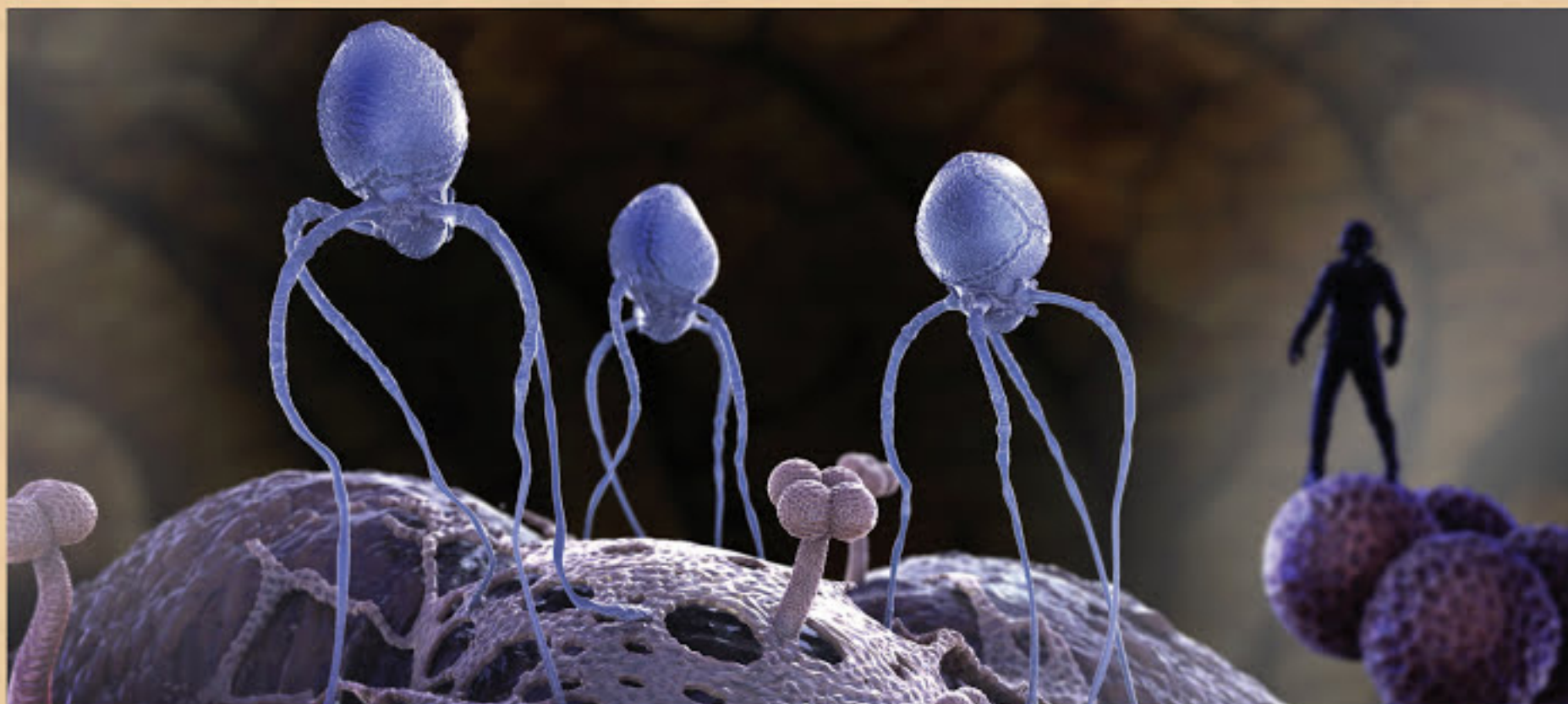


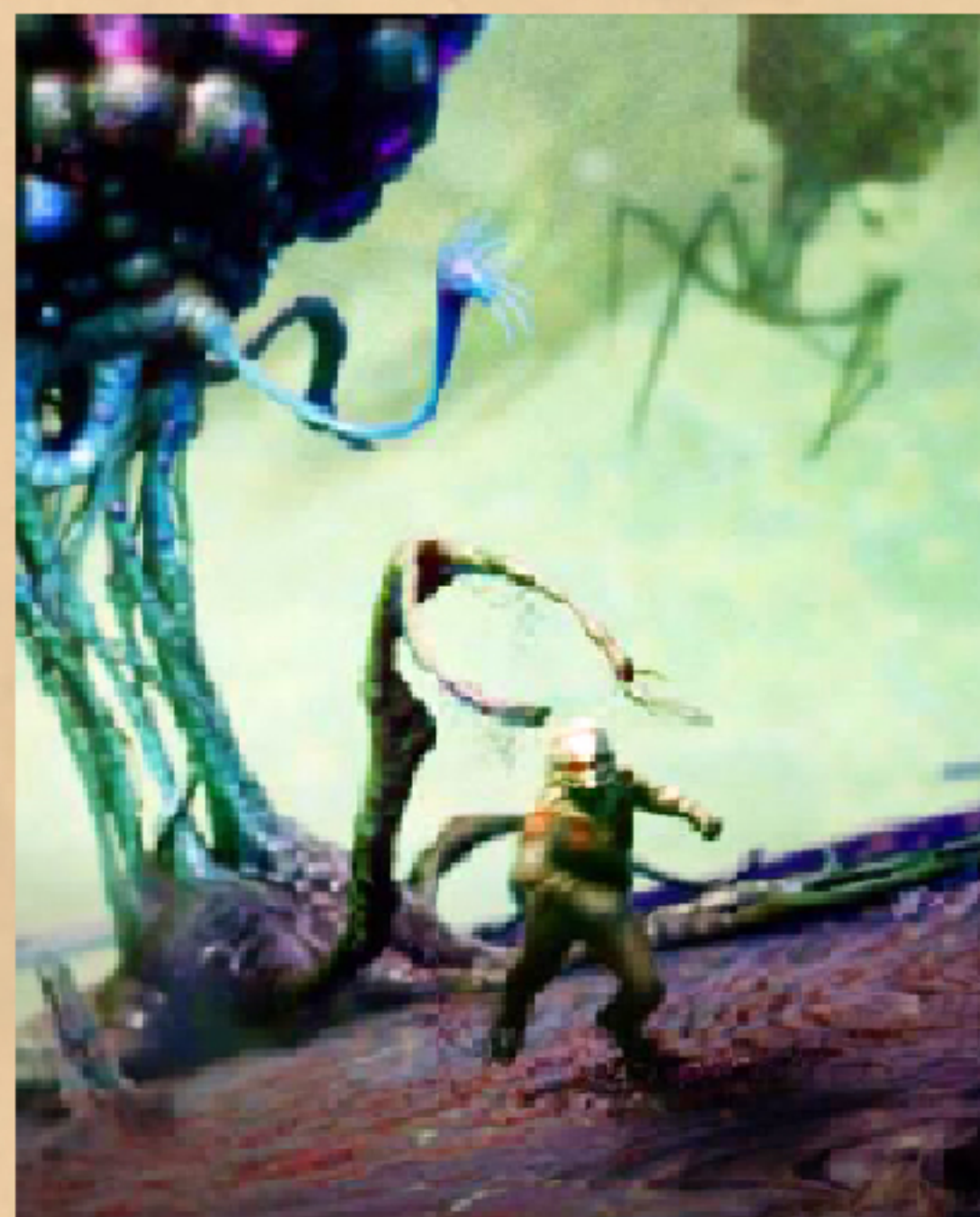


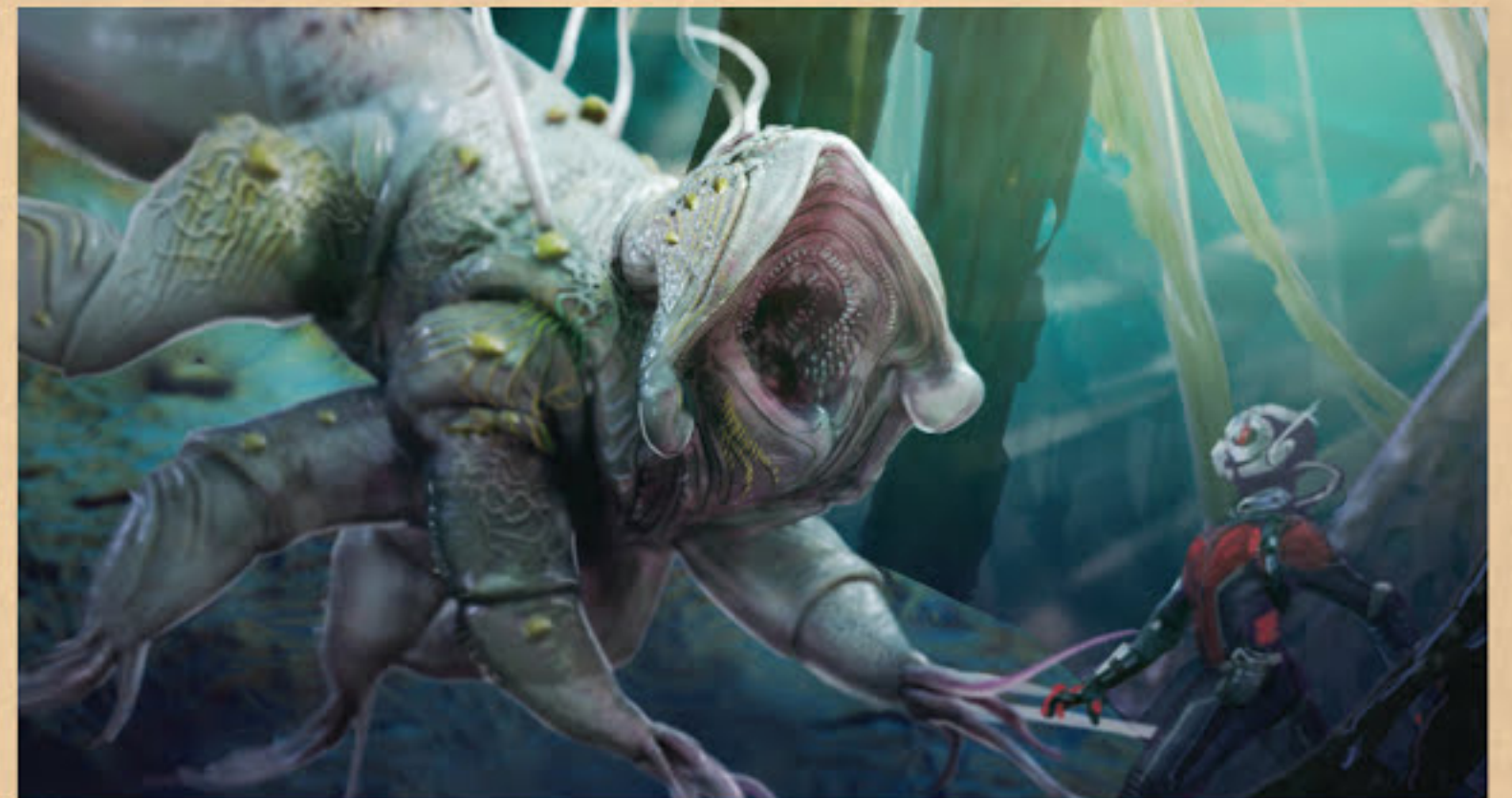
The Quantum Realm is not only filled with endless unfamiliar landscapes, but also populated by a myriad of strange-looking microorganisms. "I love doing creature designs," Concept Artist Ian Joyner says. "If I could spend all day doing nothing but creatures, I would be a happy man. Luckily, on *Ant-Man and the Wasp*, I had weeks and weeks doing just that. We explored actual microscopic organisms such as the amazing tardigrades. Early on, I had done some keyframe exploration that would play out like a horror film as Ant-Man explores some unknown forest of bamboo as strange creatures began approaching and threatening him before you zoomed out and realized it was actually just every parent's worst nightmare: lice! We also explored Quantum Realm life that would be so small and alien we could barely comprehend it: geometric shapes, virus stalks—the sky was the limit...or whatever the Quantum Realm equivalent of sky would be."













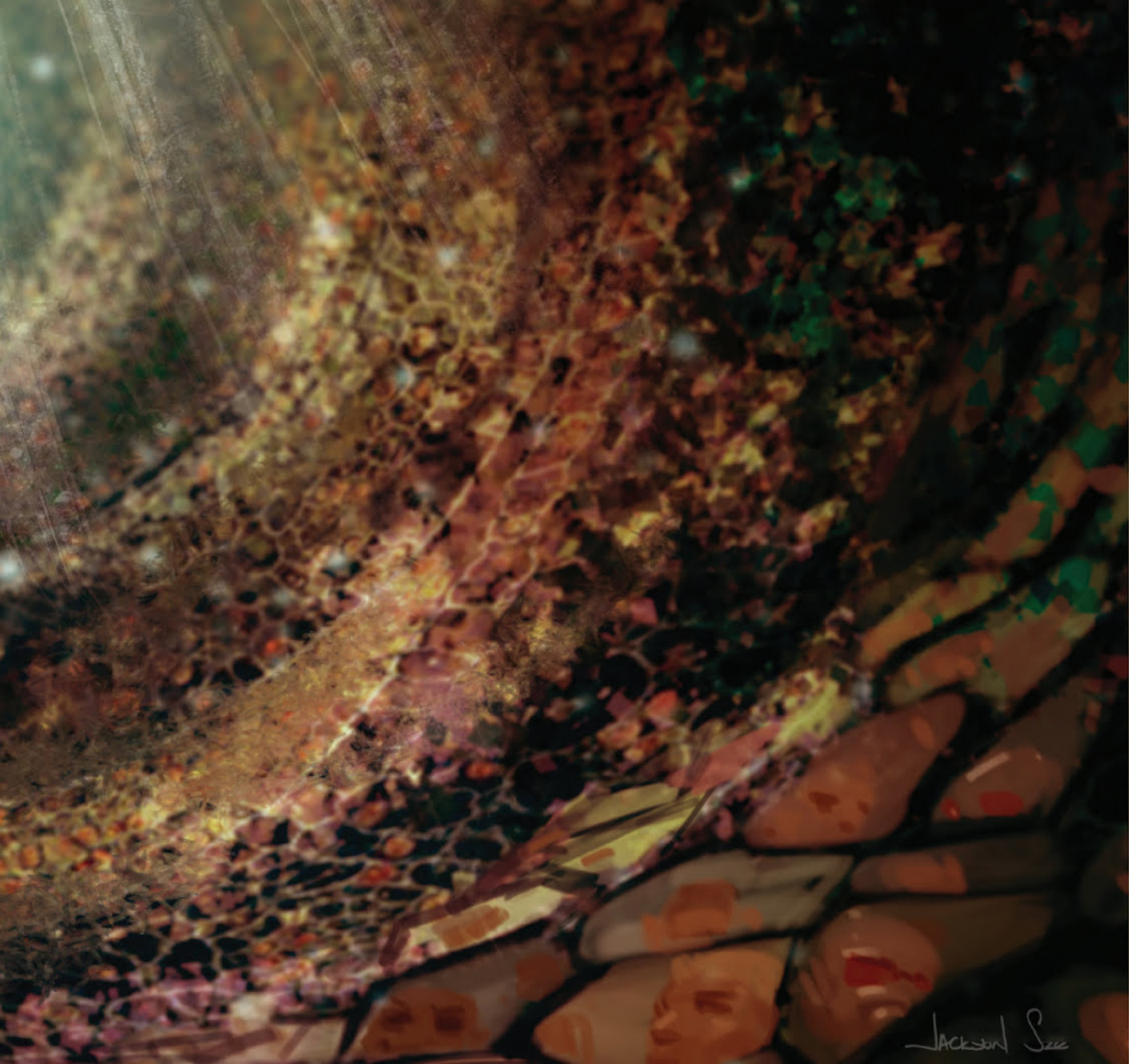
▲ TOP **SUMMERS**; MIDDLE & BOTTOM **JOYNER**

JOYNER ►











■ PREVIOUS SIZE

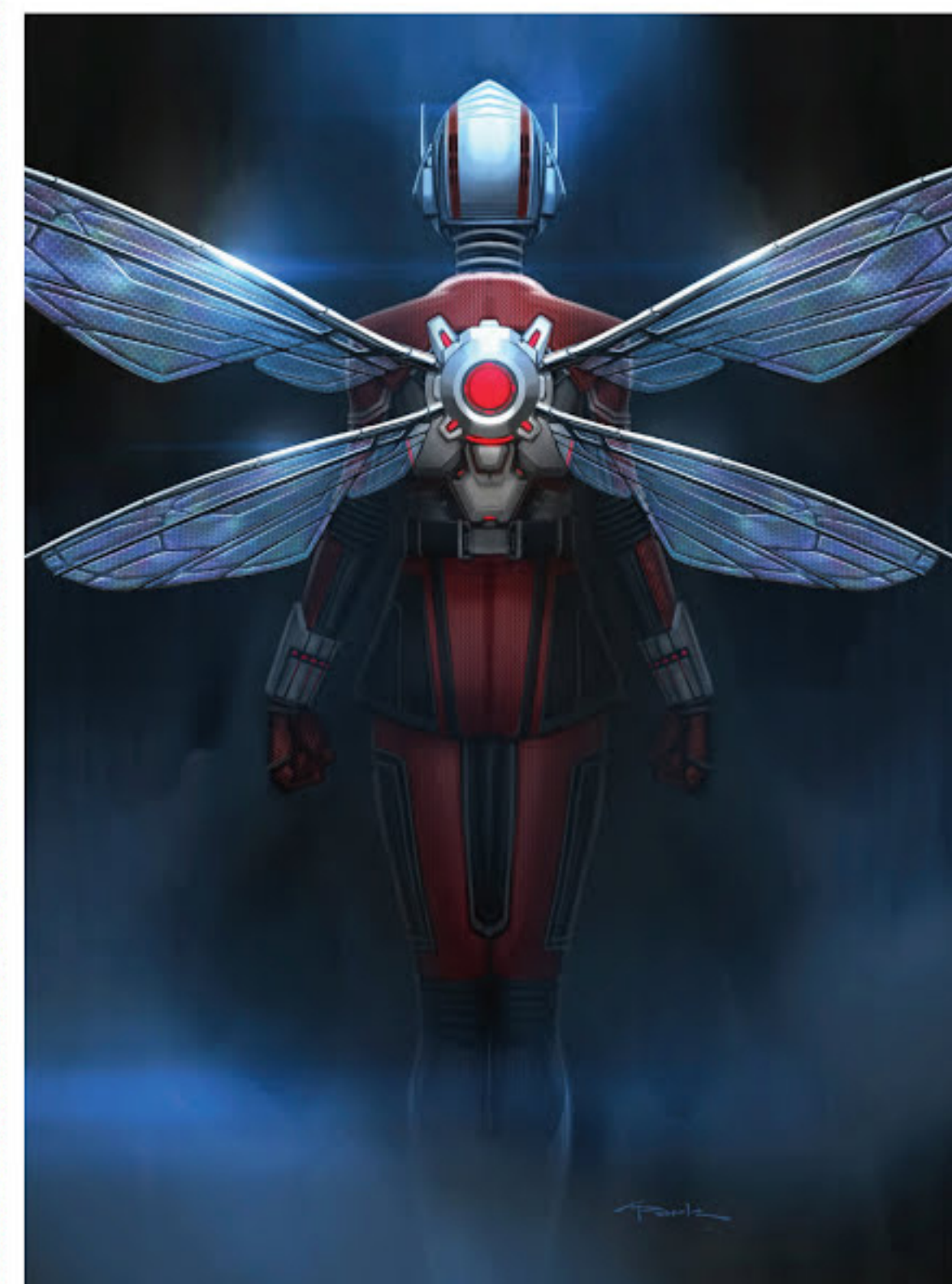
■ SUMMERS











THE WASP

HANK PYM LOG ENTRY:

For the past 30 years, I've replayed my last moments with Janet over and over again in my mind. I can still picture her, the embodiment of heroism and strength, as she deactivated her regulator and went subatomic, shrinking until I could no longer see her. Will she look the same now? What will this harsh landscape have done to her? — H.P.



PARK ▲

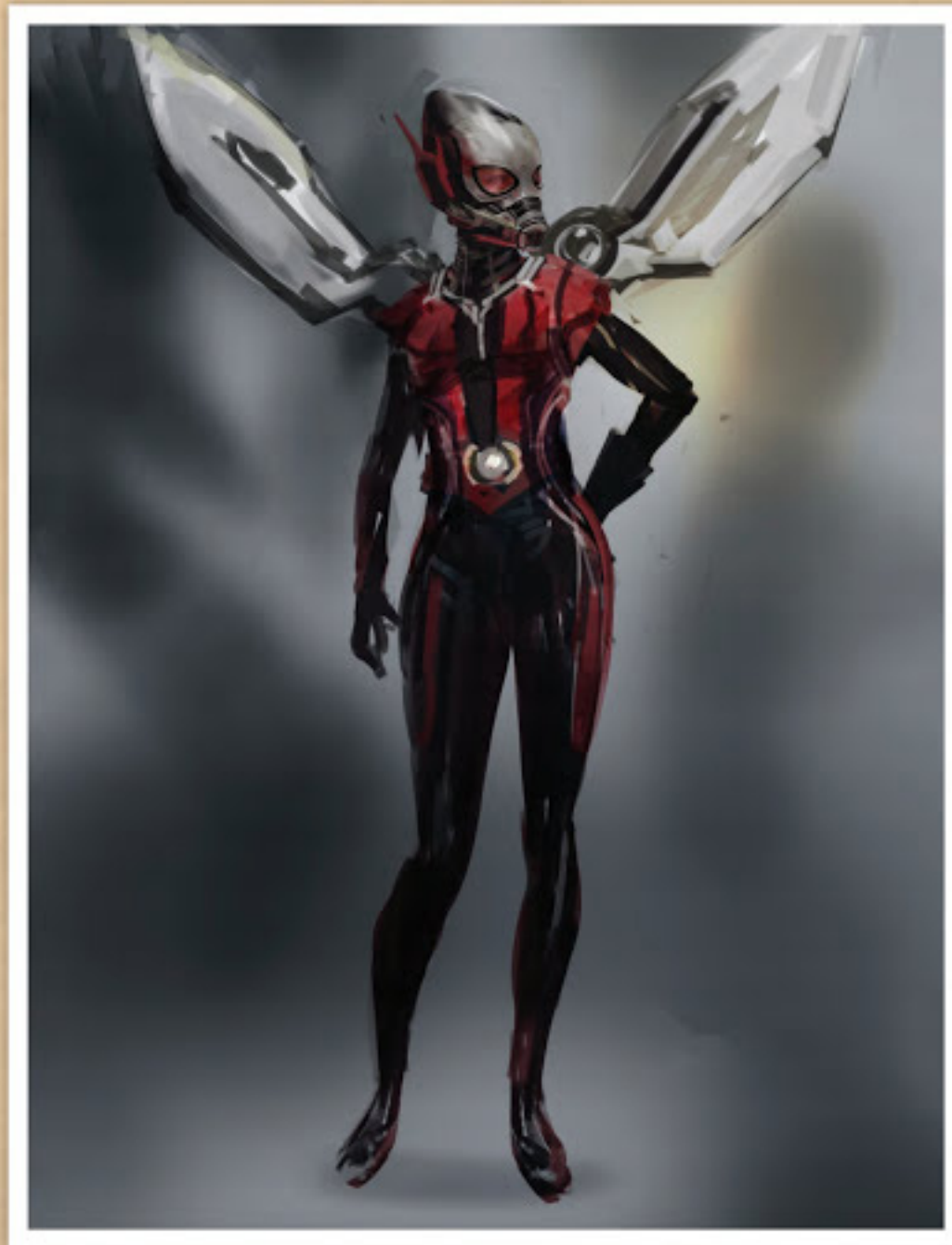
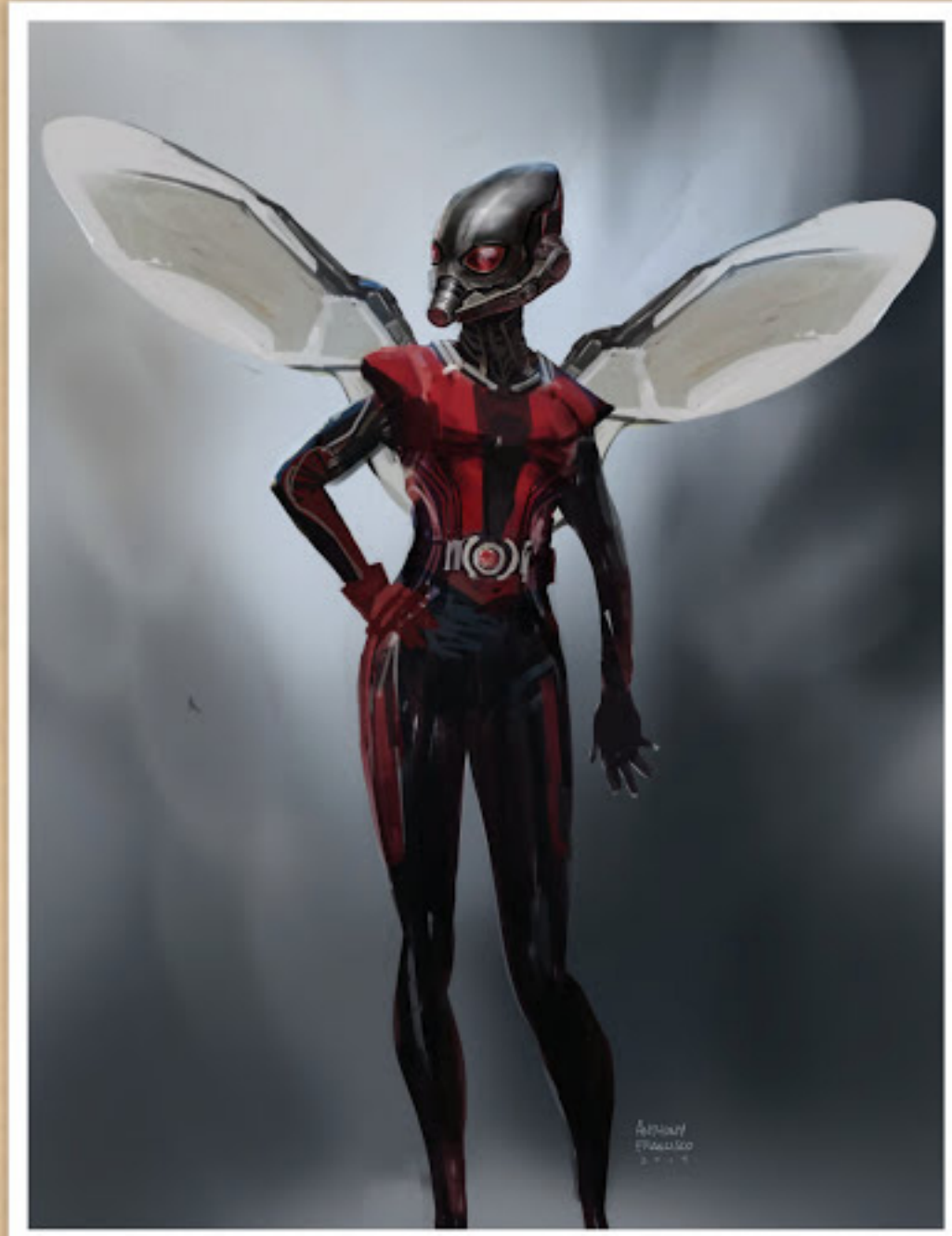


MEINERDING ▲

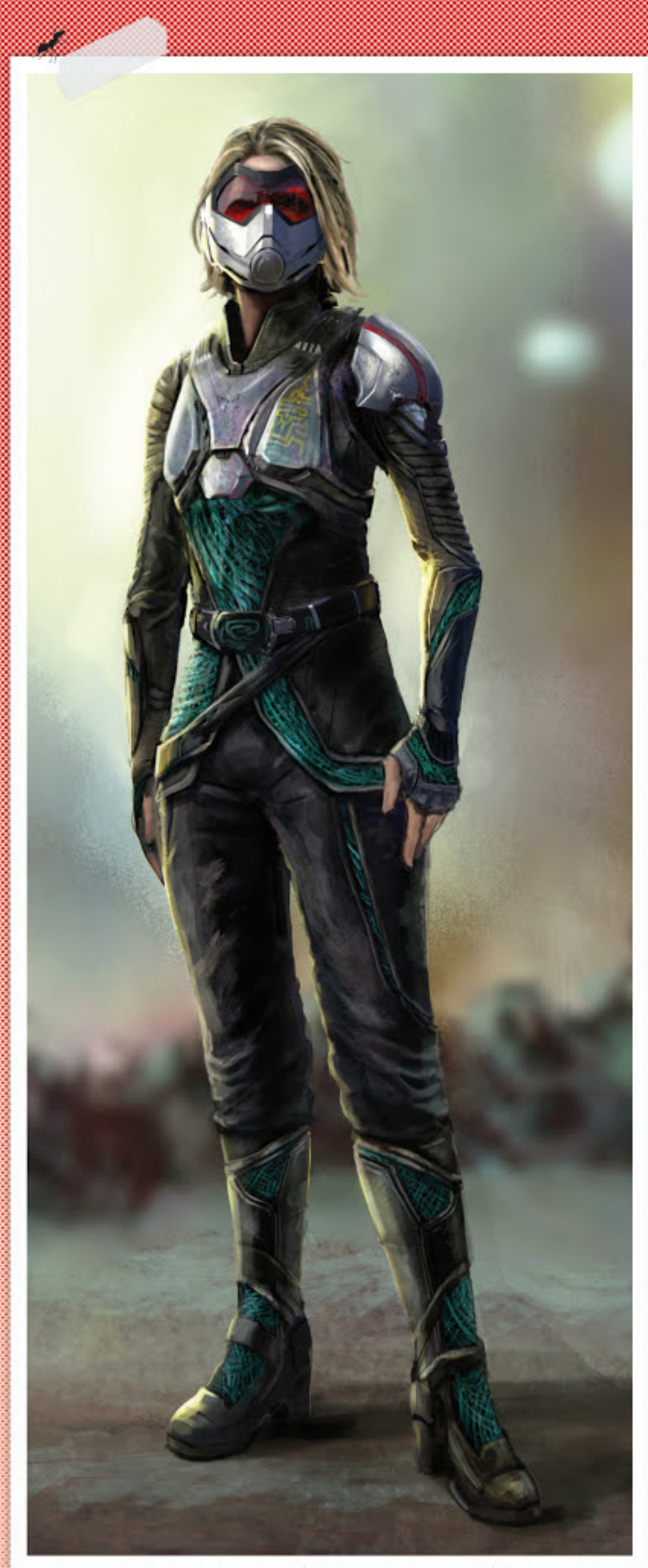








FRANCISCO ■

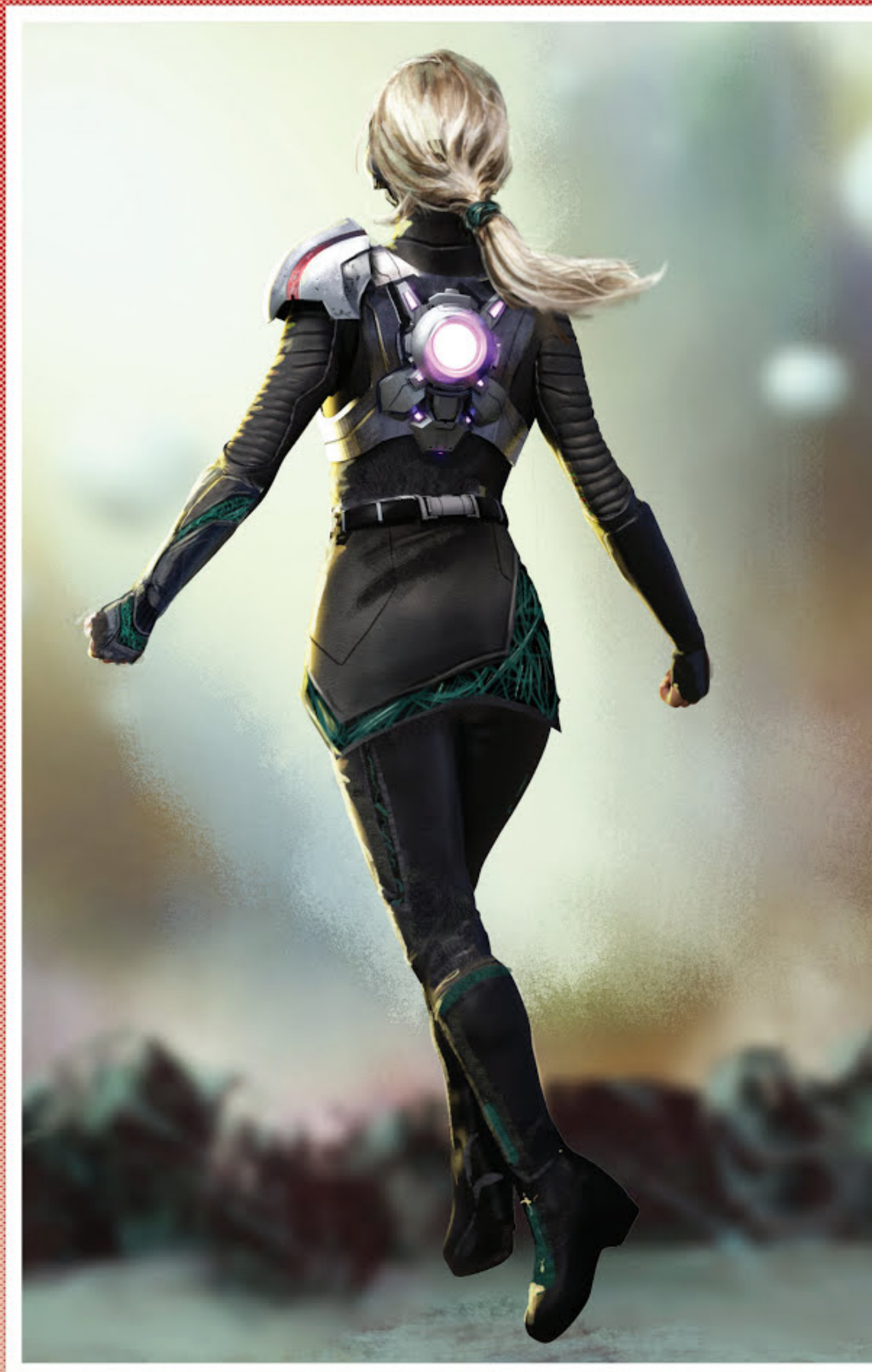


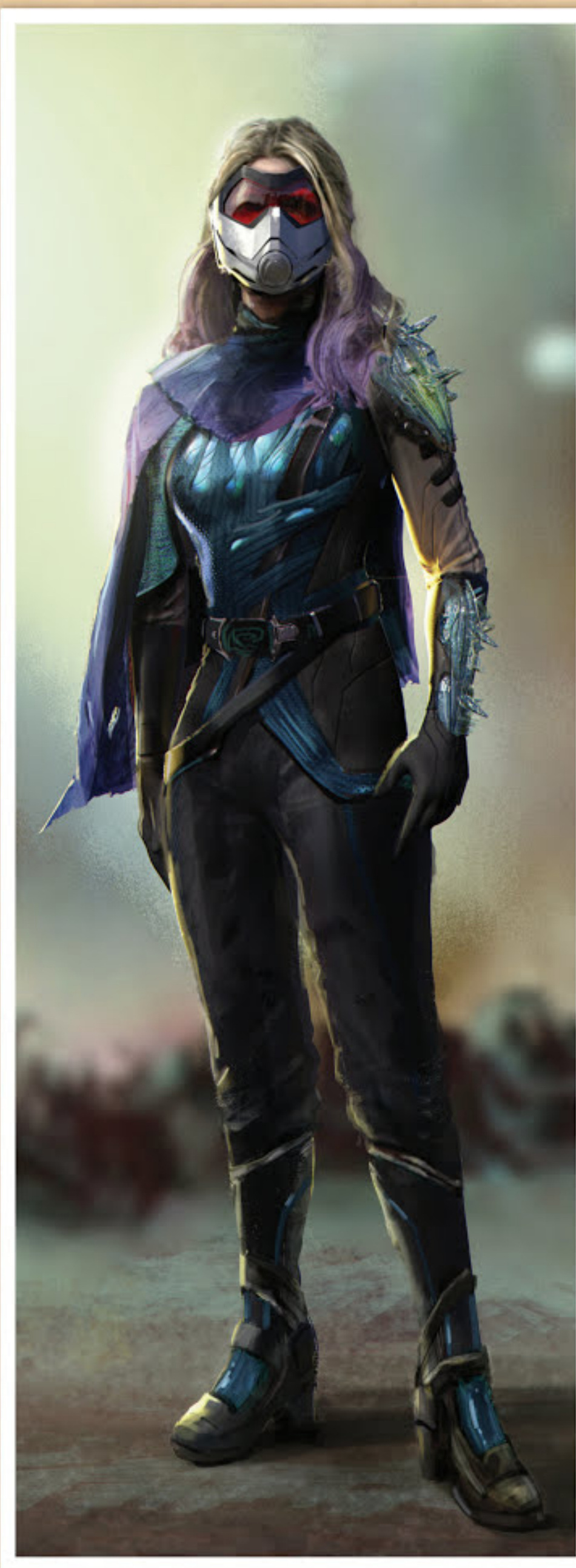
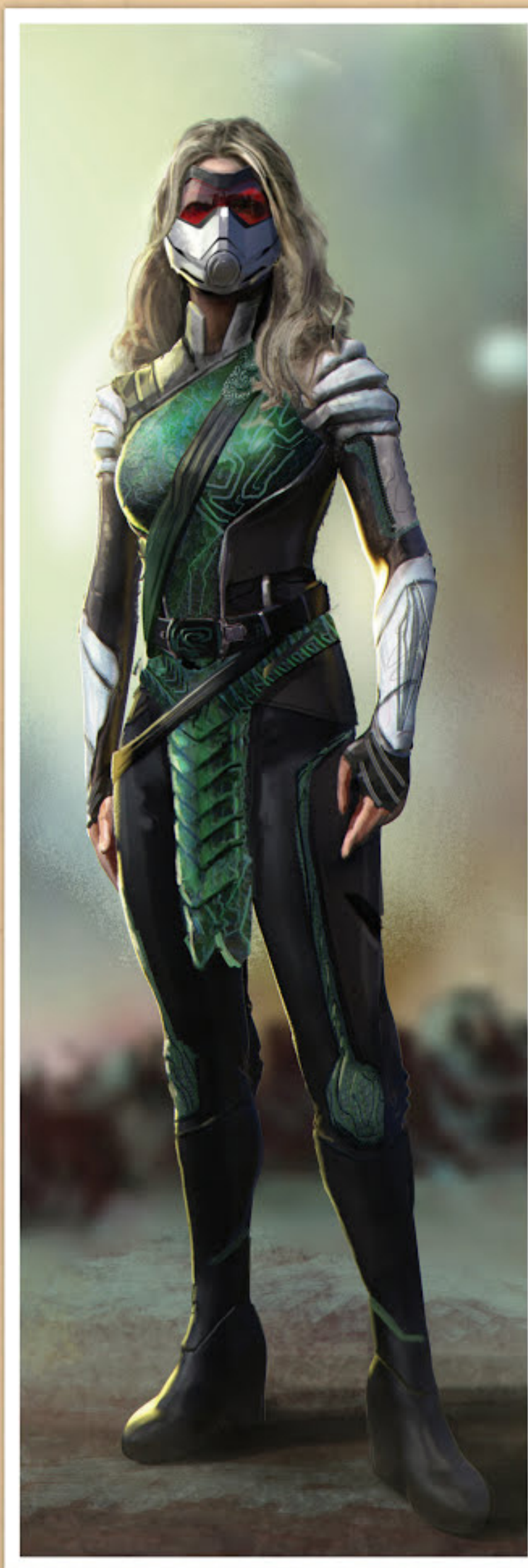


JANET VAN DYNE

HANK PYM LOG ENTRY:

And then I saw her—my Janet, still as beautiful as I remember. But this environment has strengthened her even more. She is different in so many ways, but in other ways nothing seems to have changed at all. Time is funny like that. — **H.P.**

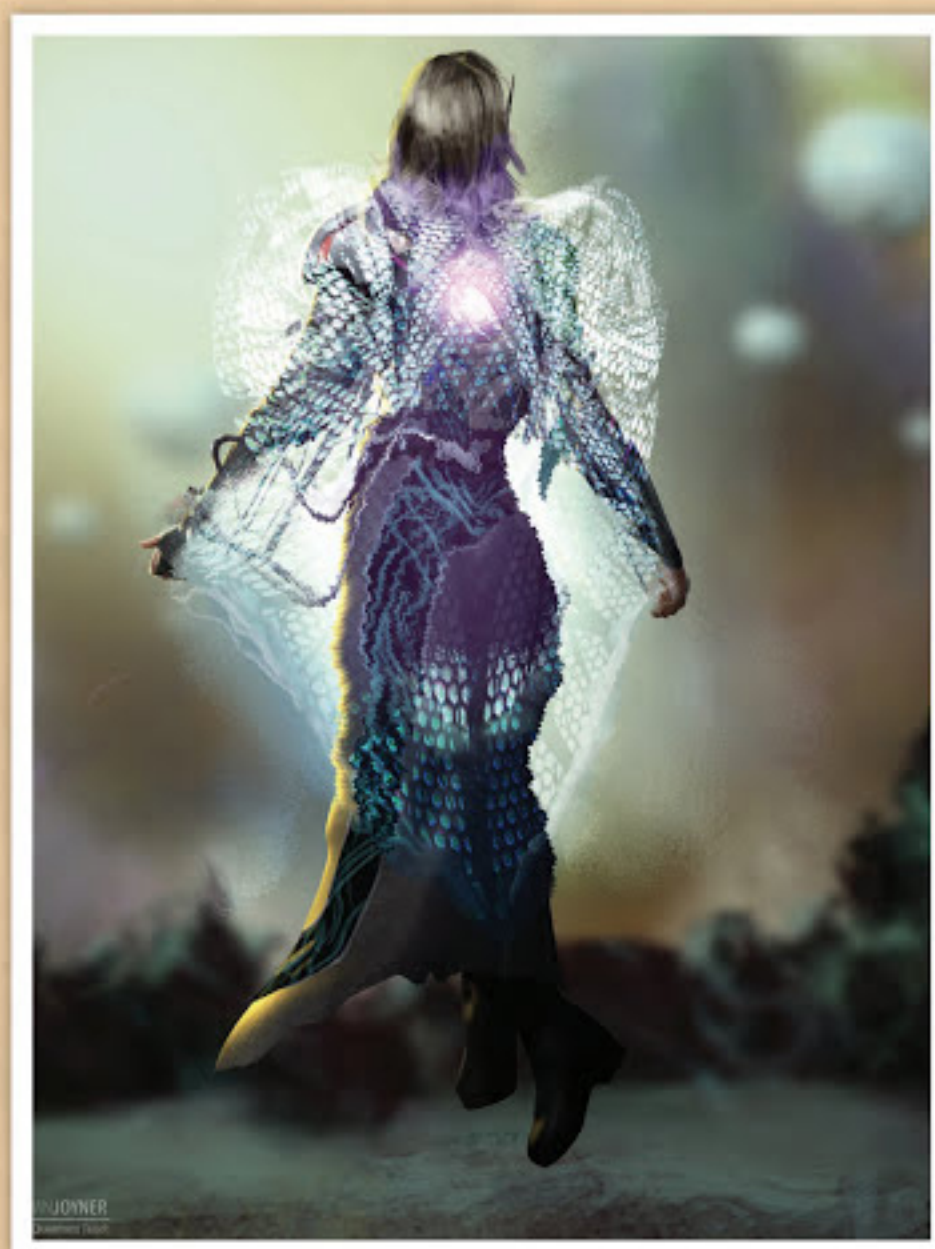
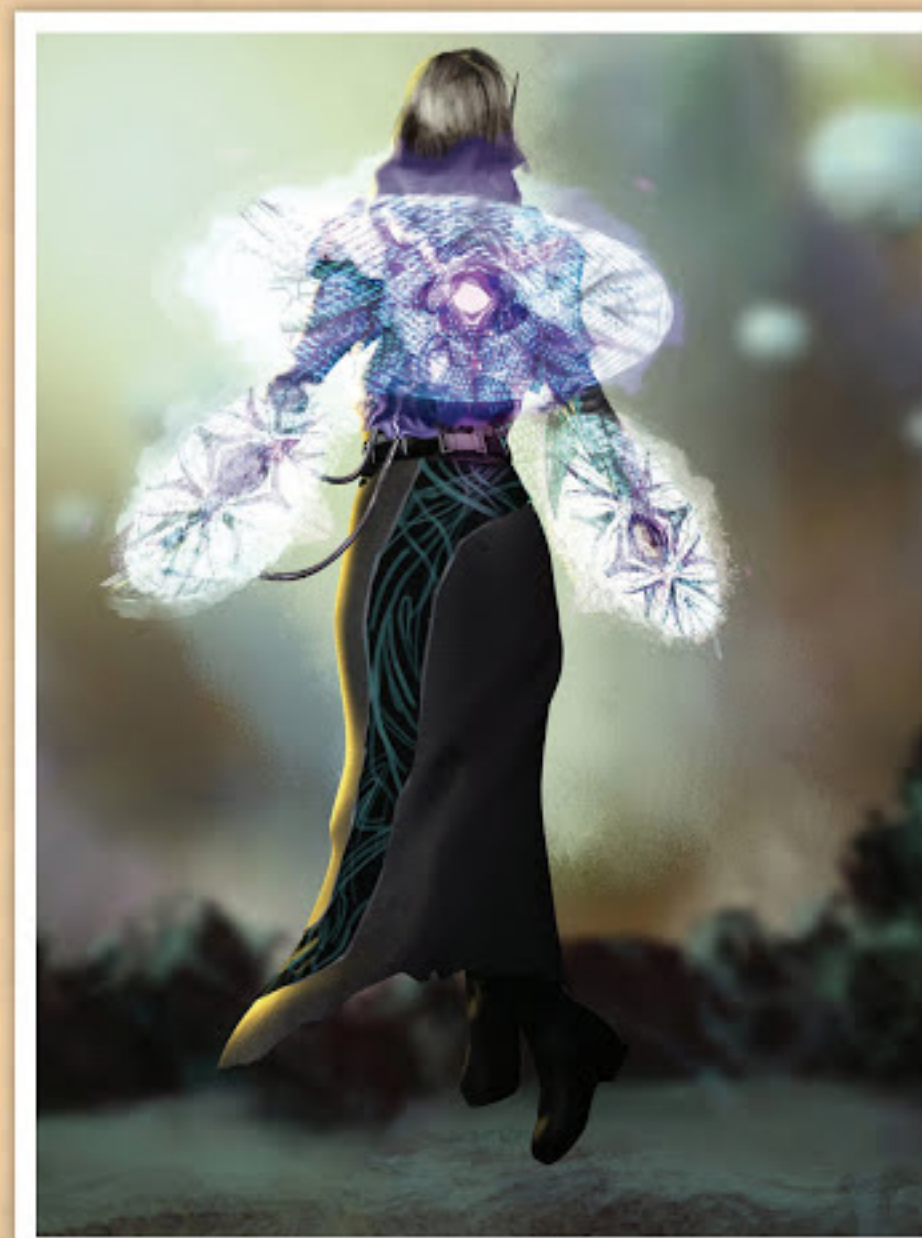


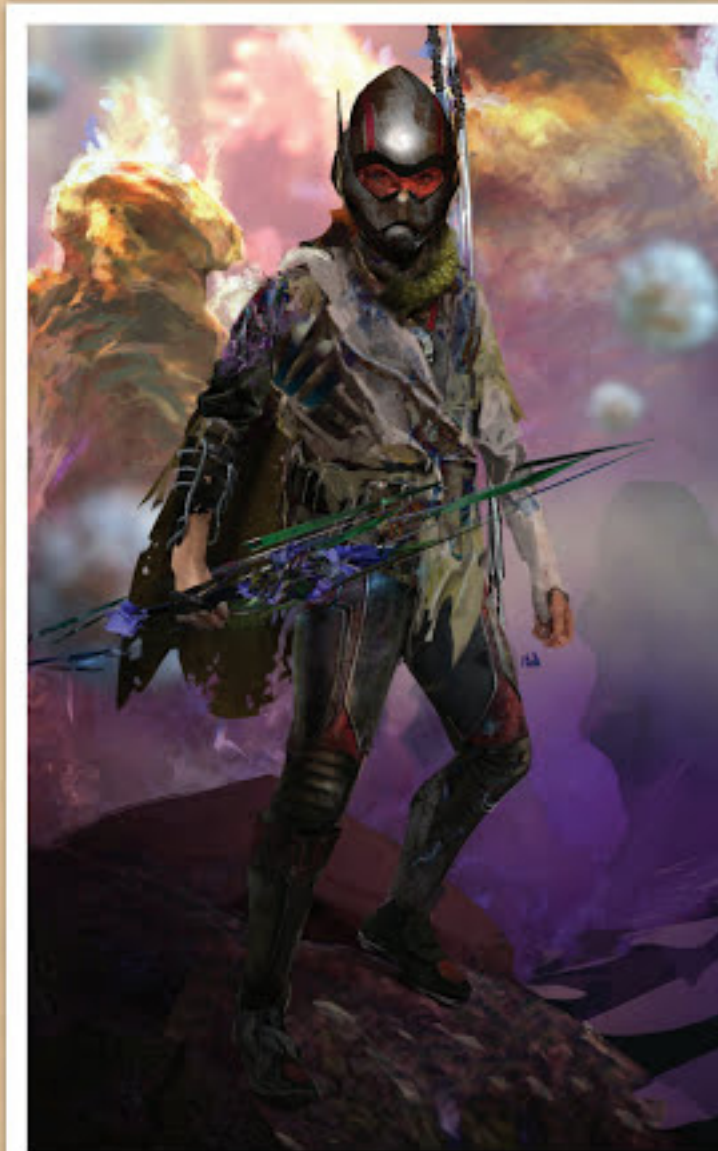
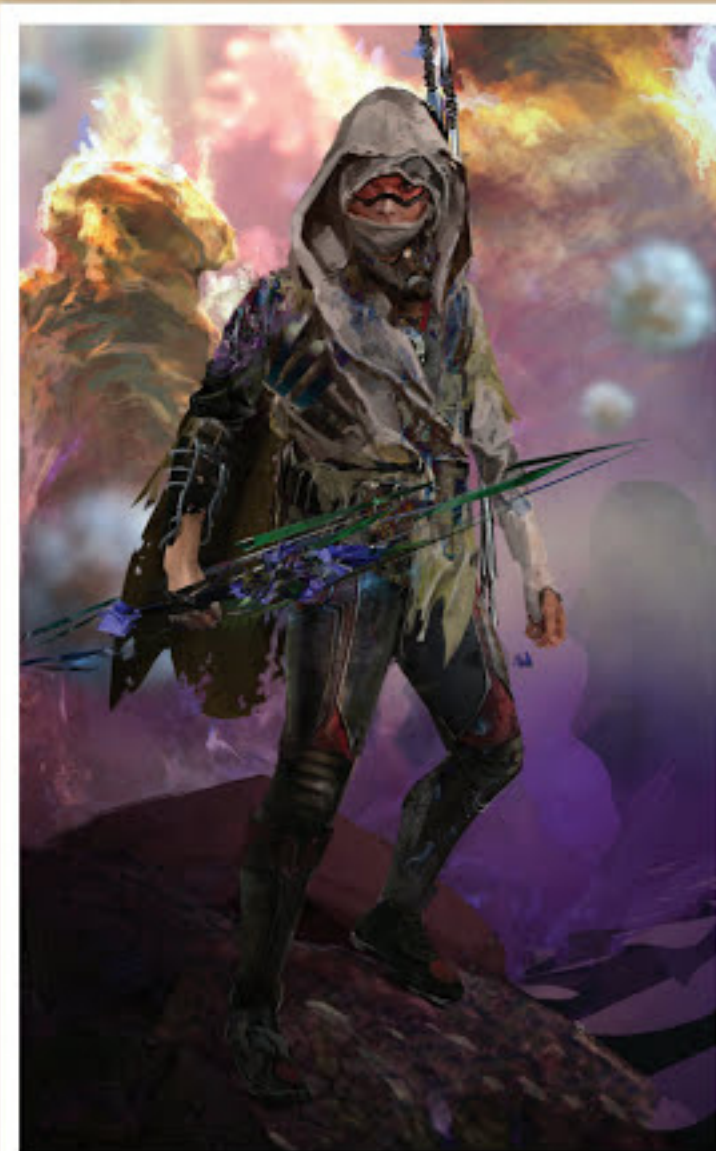






Exploring Janet's look at length, the Visual Development team also found inspiration in the various creatures populating the Quantum Realm. Eventually, filmmakers landed on Concept Artist Ian Joyner's design. "Janet was really fun to work on," Joyner says. "As a huge fan of both Michelle Pfeiffer and the character in the comics, imagining her look after surviving in the Quantum Realm was a delight. The previous film had shown a brief glimpse of her awesome costume designed by Andy Park, so taking that and deconstructing it—using found objects to show how resourceful she has been over the years—was a very fun playground to be allowed to explore."

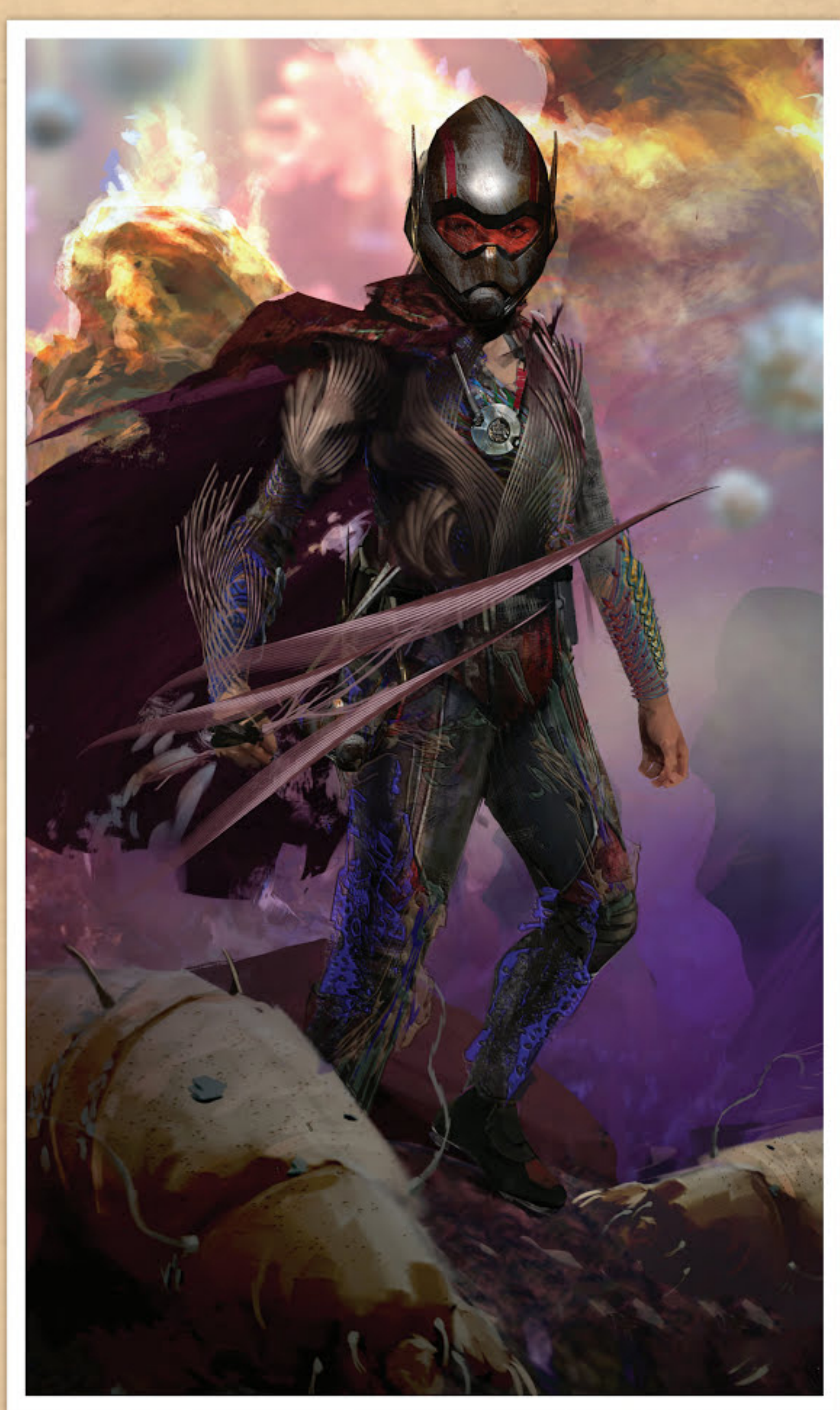




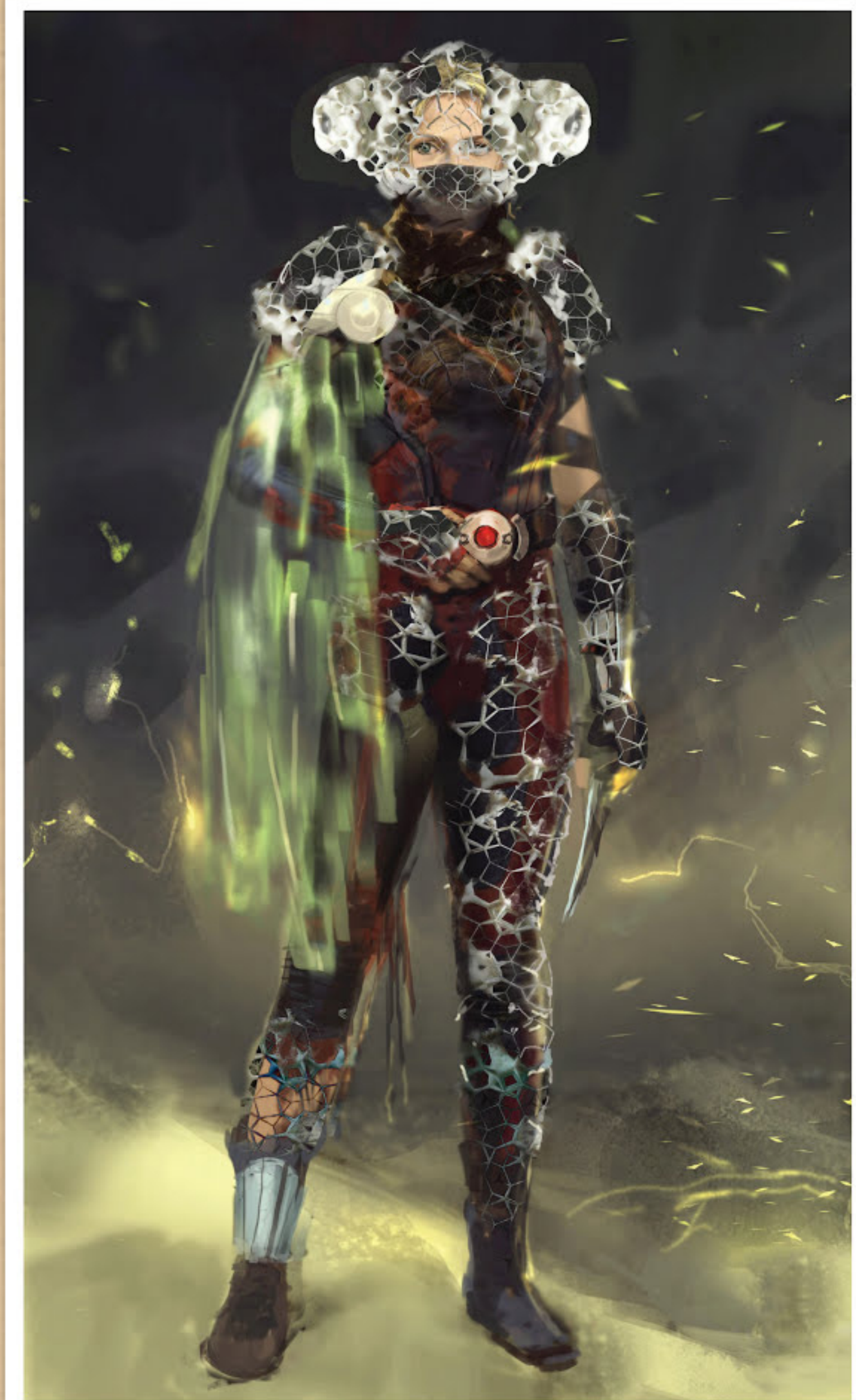
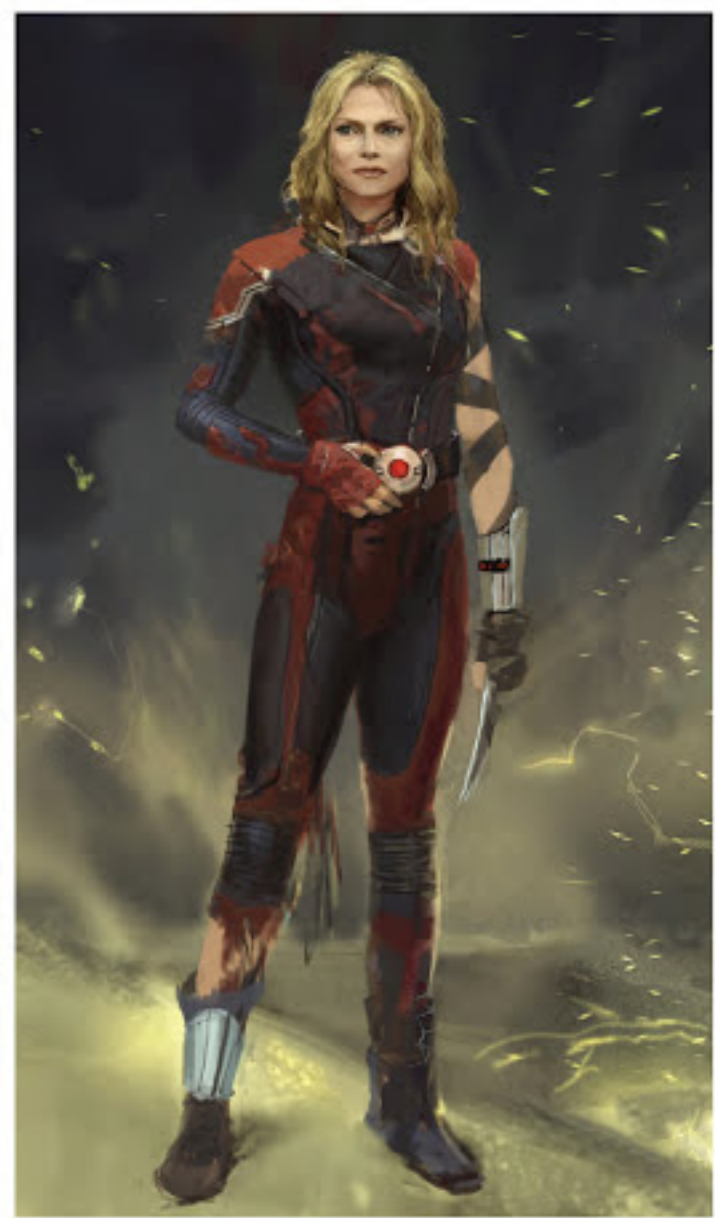




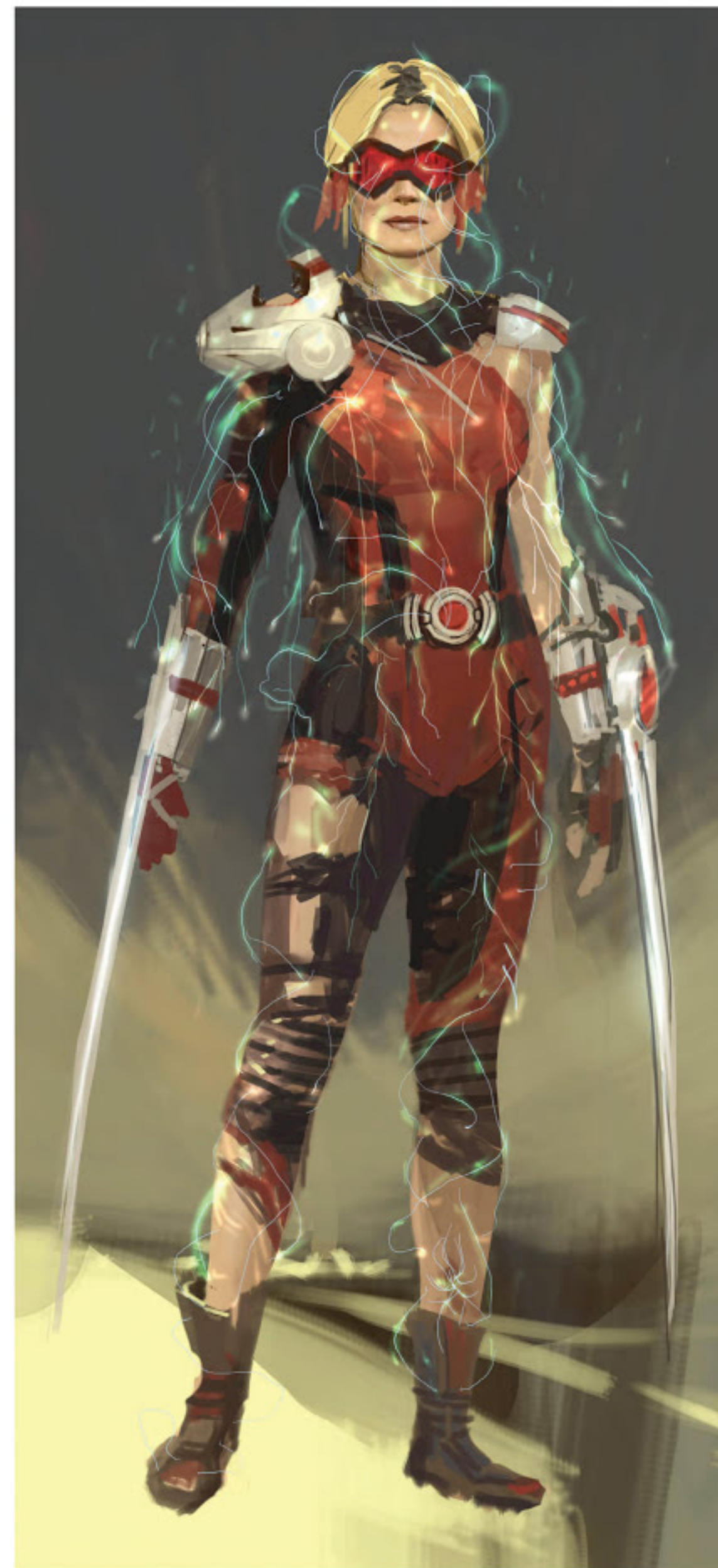


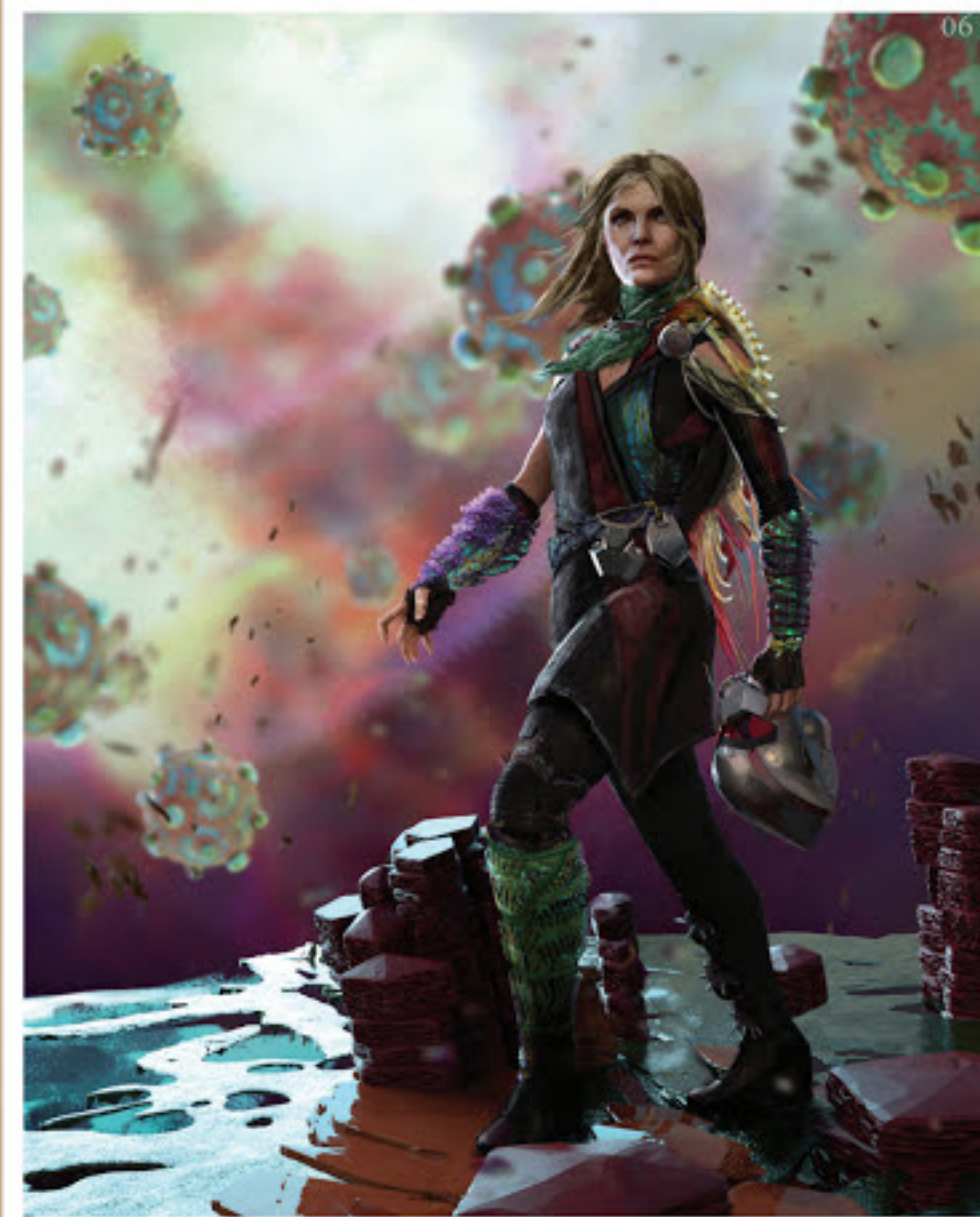
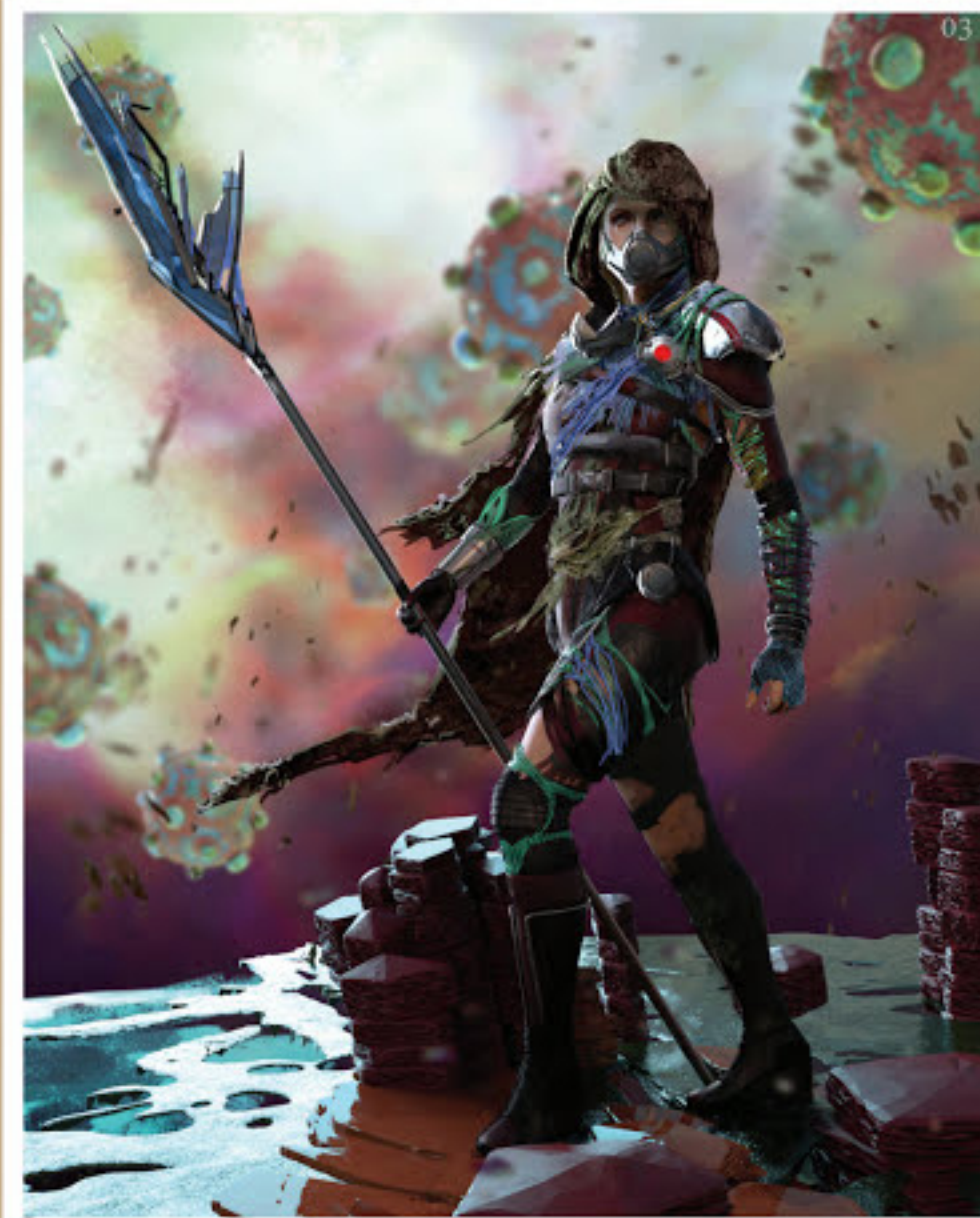




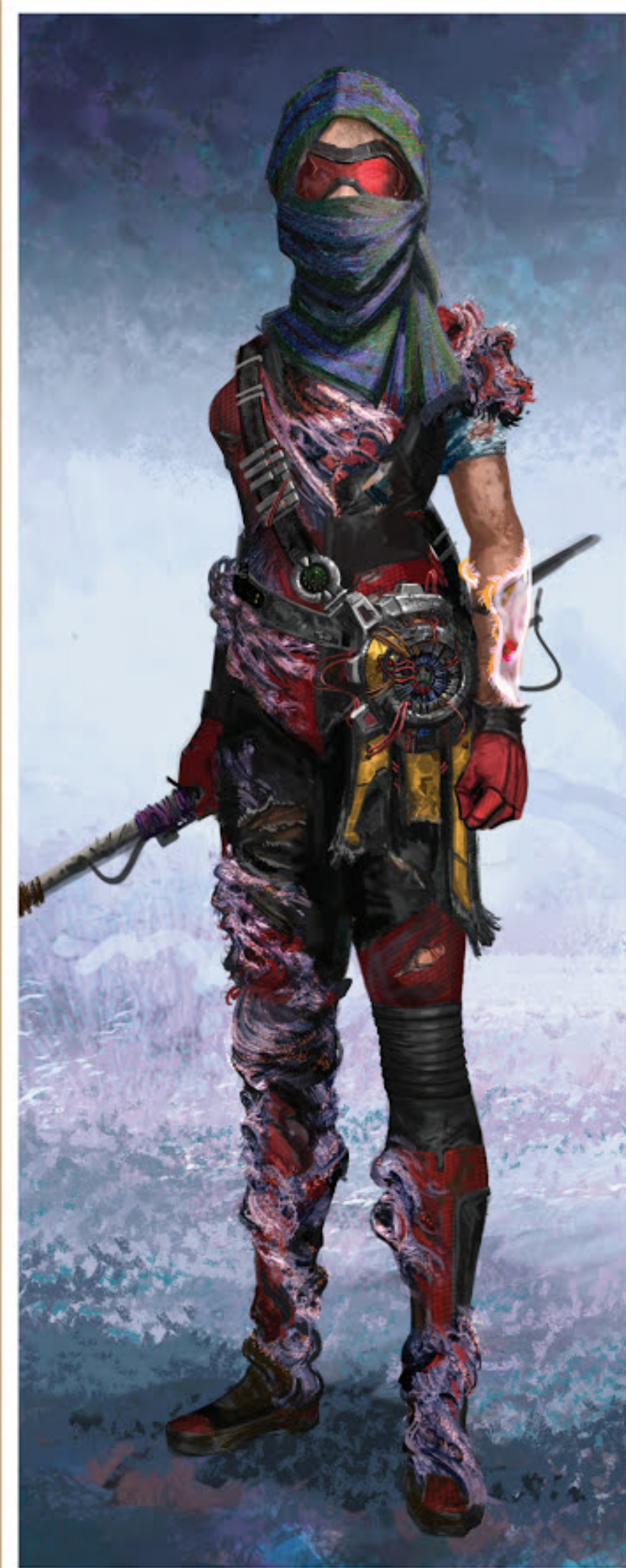
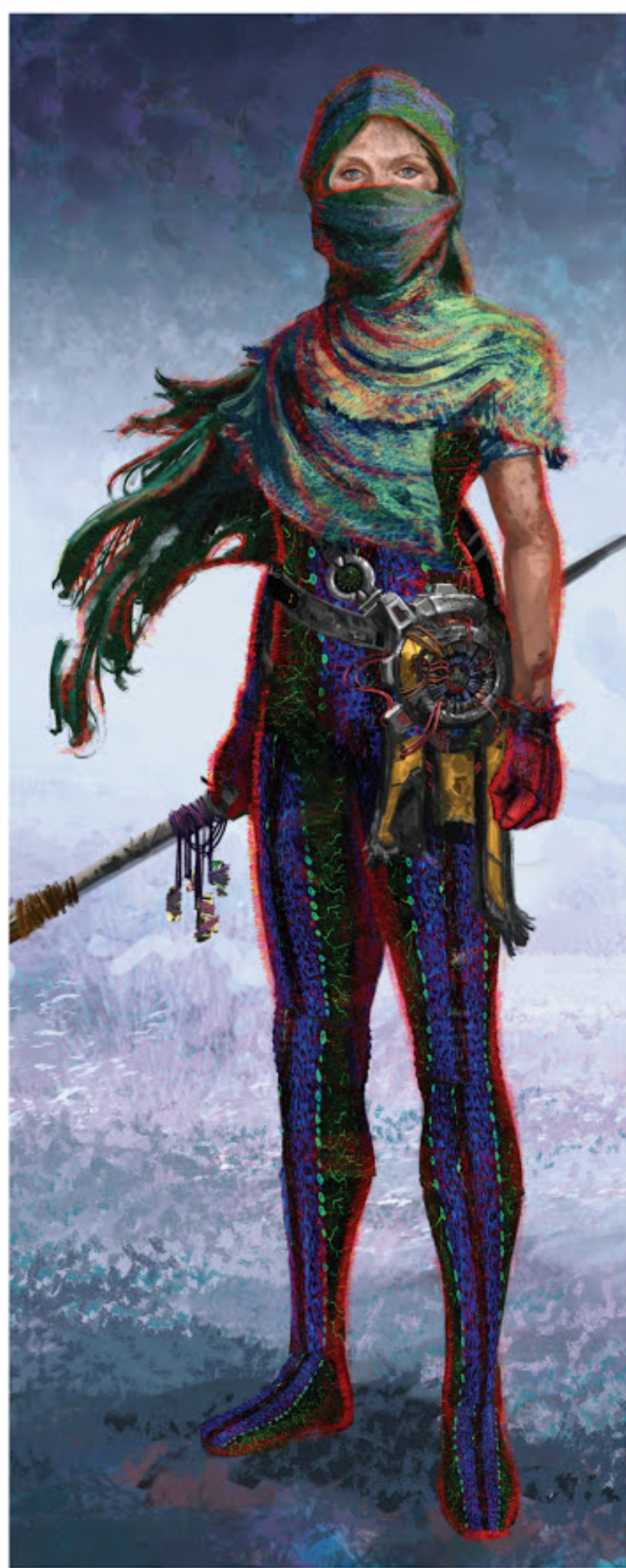


"I remember initially the idea was to incorporate the environment into her designs for armor and make it feel like she's been in the Quantum Realm for a while just trying to survive," Senior Concept Illustrator Anthony Francisco says. "Later, we were told to also try ideas that she's met another civilization in there and she was welcomed by them, becoming a high-level official and adopting their technology with her suit—so we had ideas like that, too."







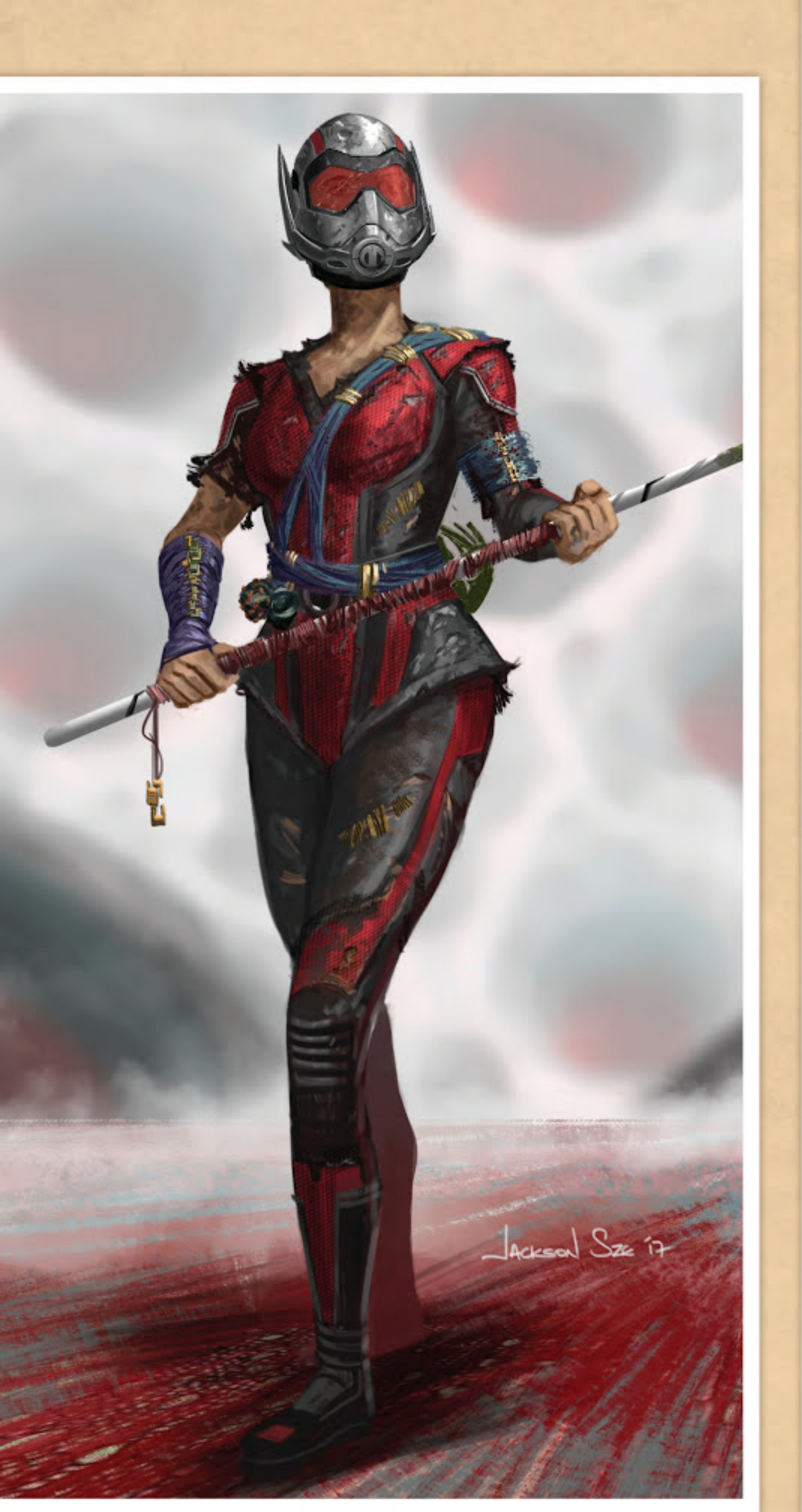




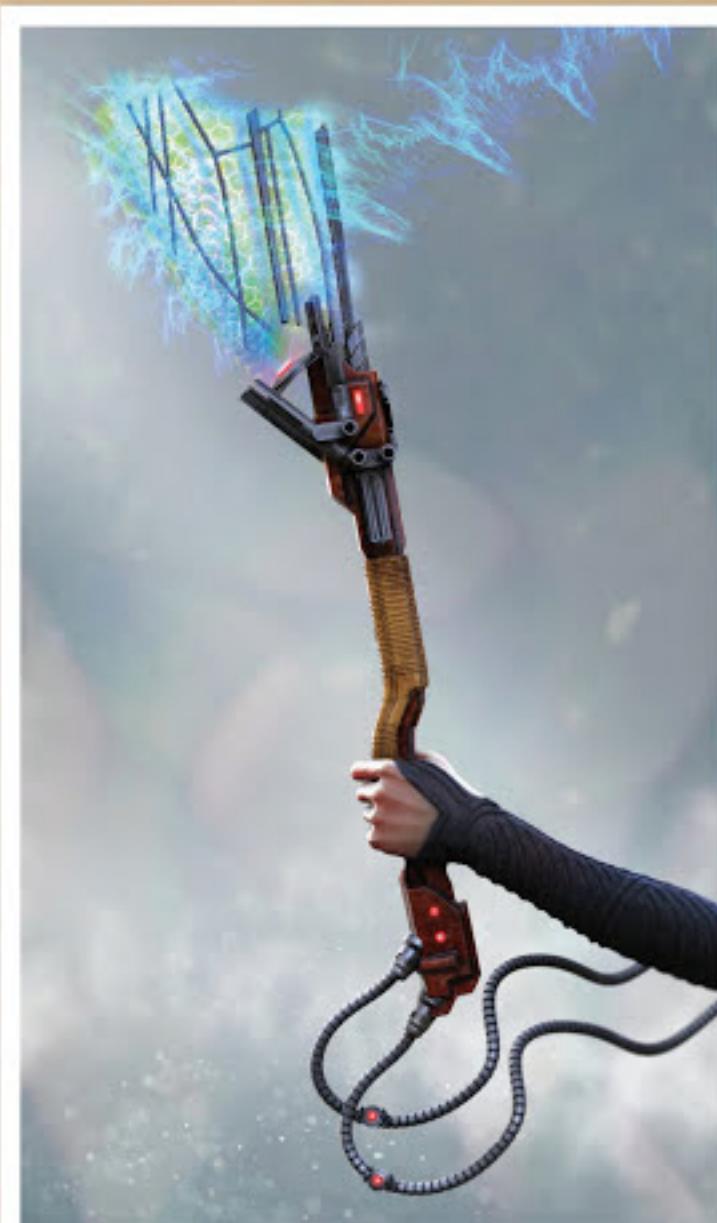


"Overall, the concepts were about how Janet would have survived all that time in the Quantum Realm," Jackson Sze says. "There were discussions of civilizations that she might have encountered in the Quantum Realm. Some of her designs would be using materials from those civilizations to create her look in the Quantum Realm. Others were about Janet surviving in a harsh environment and really retrofitting her costume to make the tech work for her in that realm. In some of them, you actually see a lot of Yellowjacket elements. The idea there was that in *Ant-Man*, Yellowjacket was destroyed by collapsing in on himself into the Quantum Realm. And so we were saying that because Janet had been there the whole time, she was able to salvage Yellowjacket's tech for her own costume, or make it into weapons or a mechanical device that she wears on her belt. Besides rigging her costume or changing her costume and showing some of the process of the environment as scratches and tears—she's been through a lot down there—I also thought of just showing that the environment had bonded with her. So there could be crystals, or some sort of pollen shapes that would cover her entire body because she's been there so long."



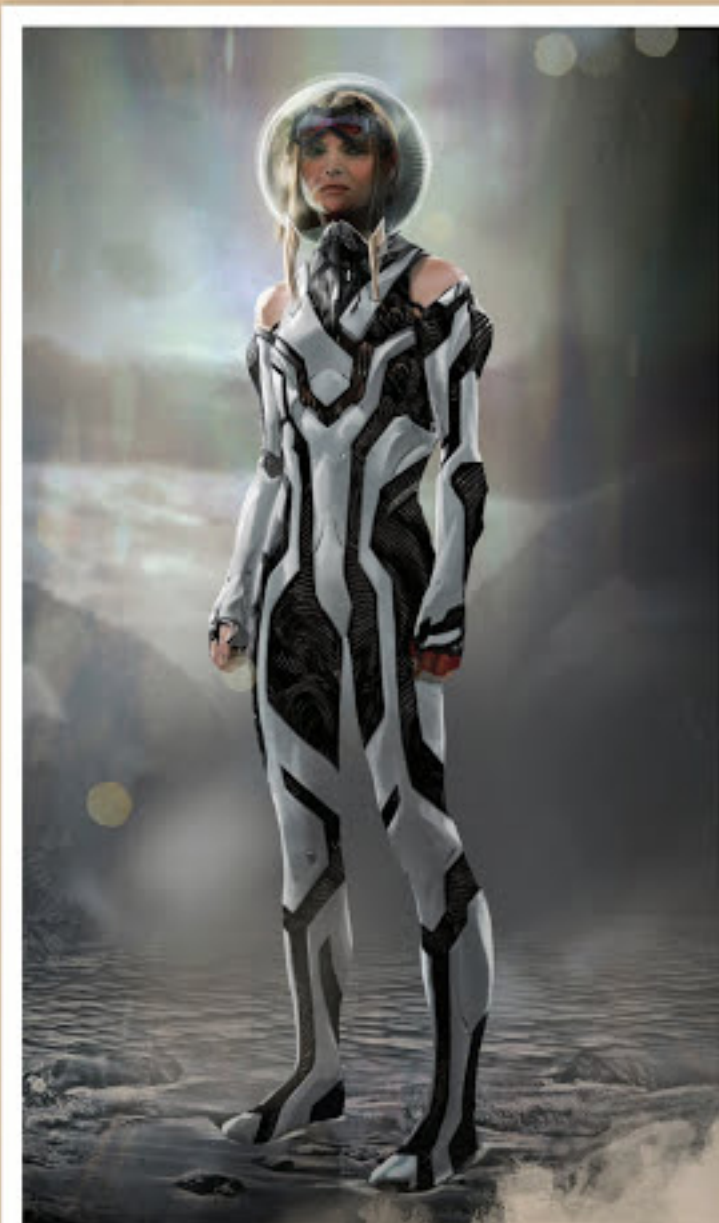
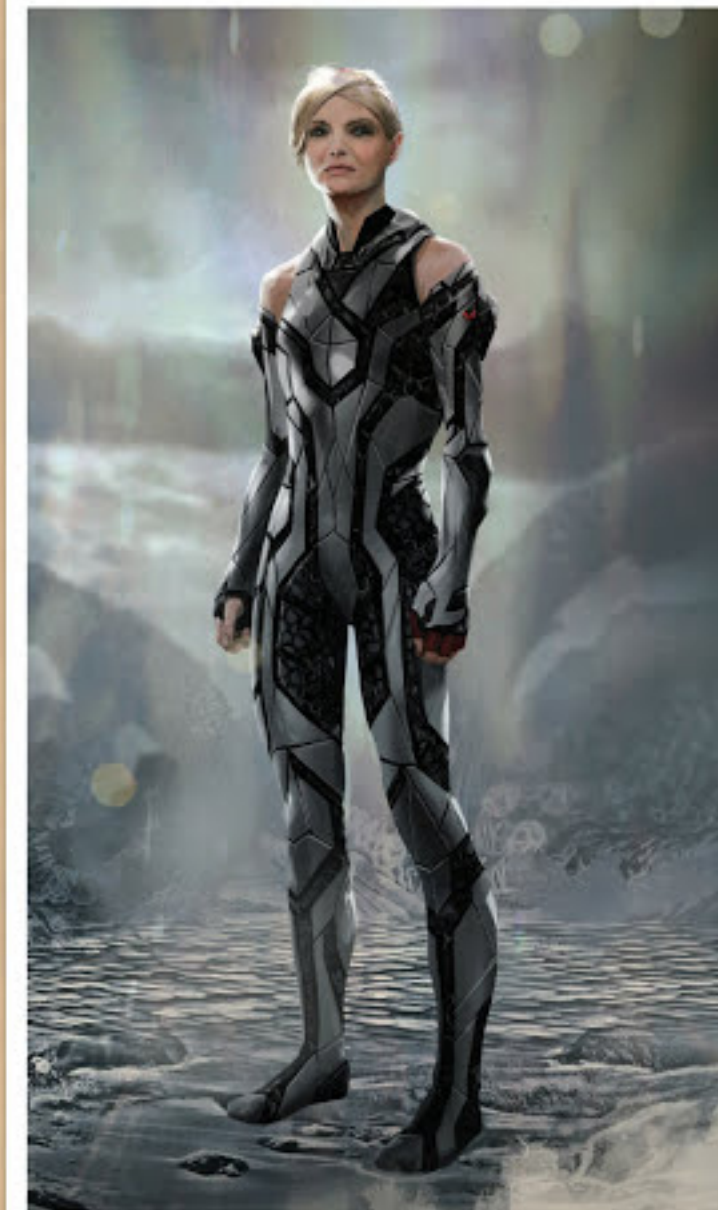


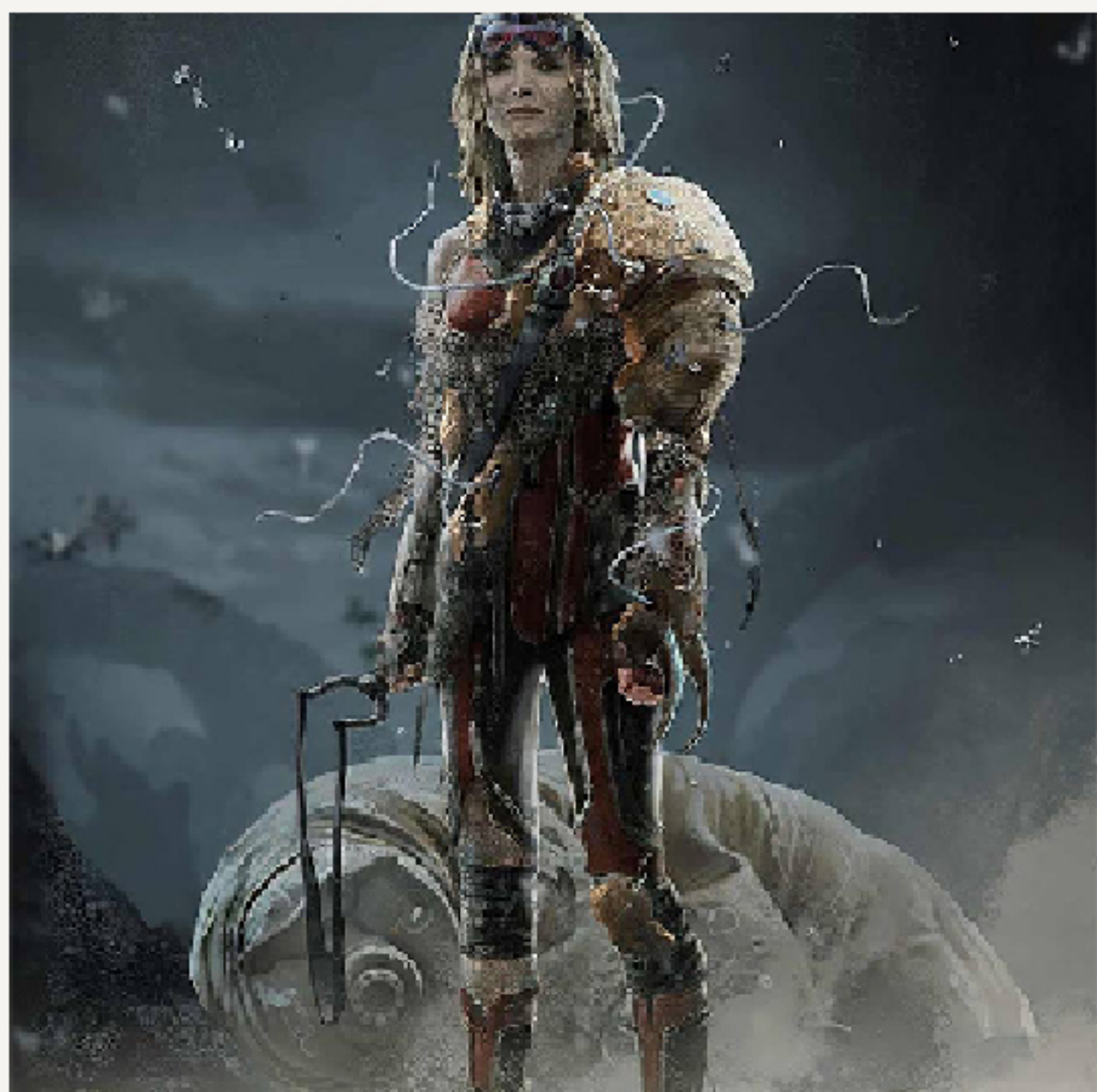


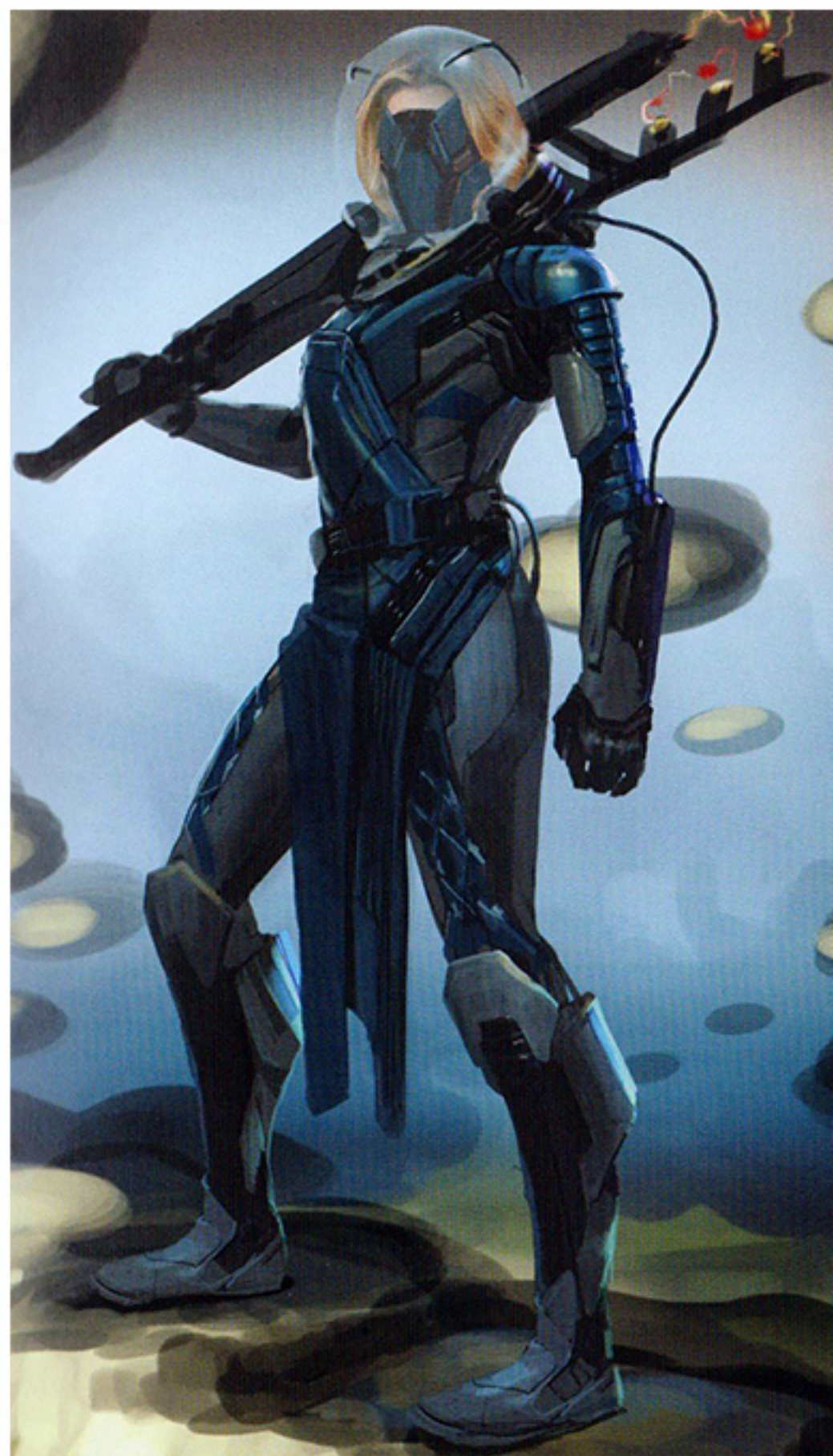


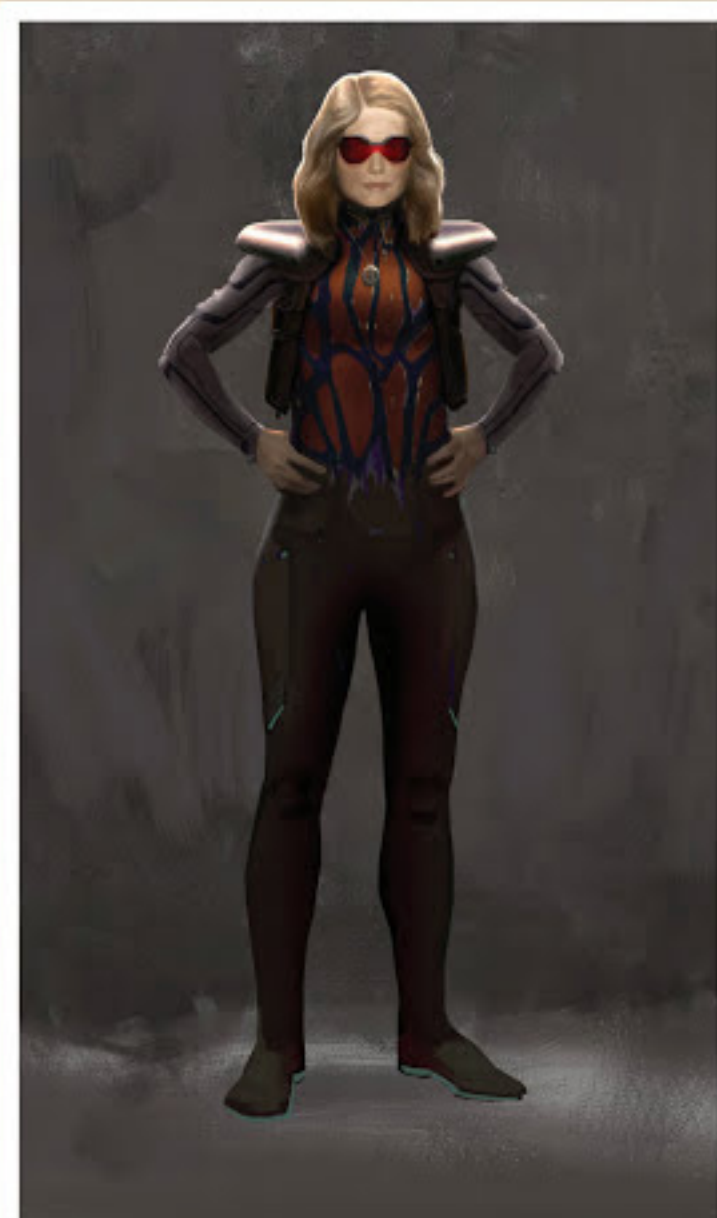
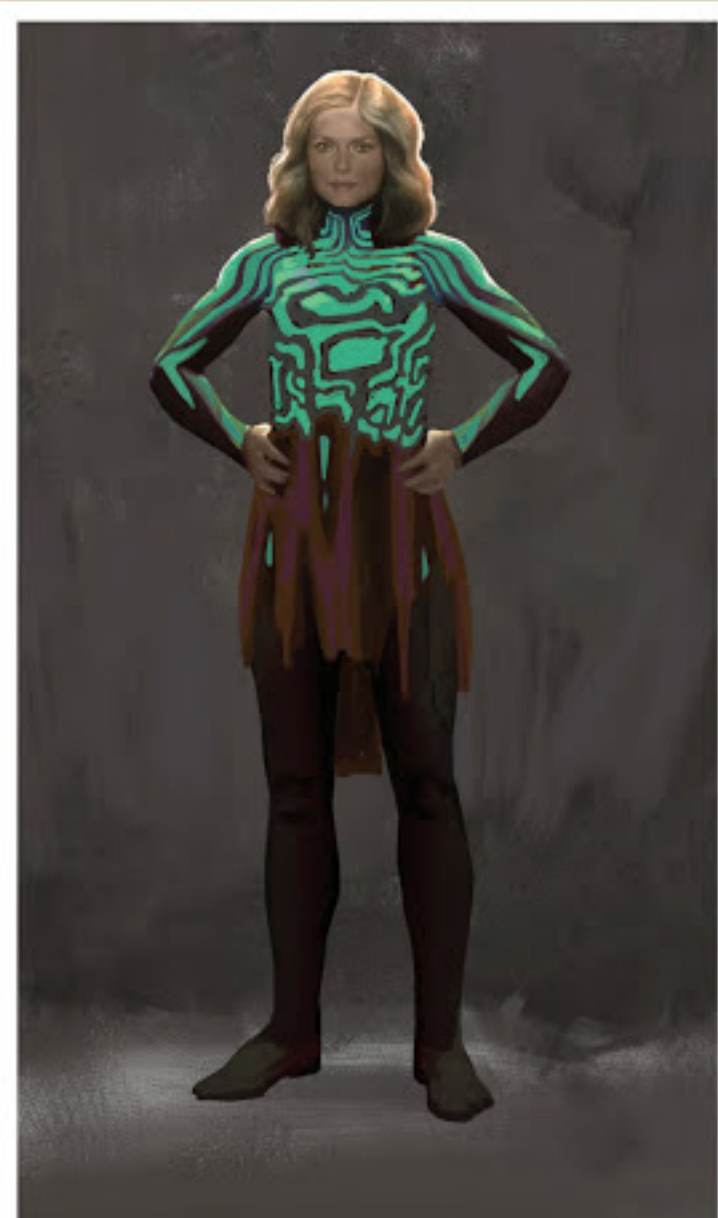
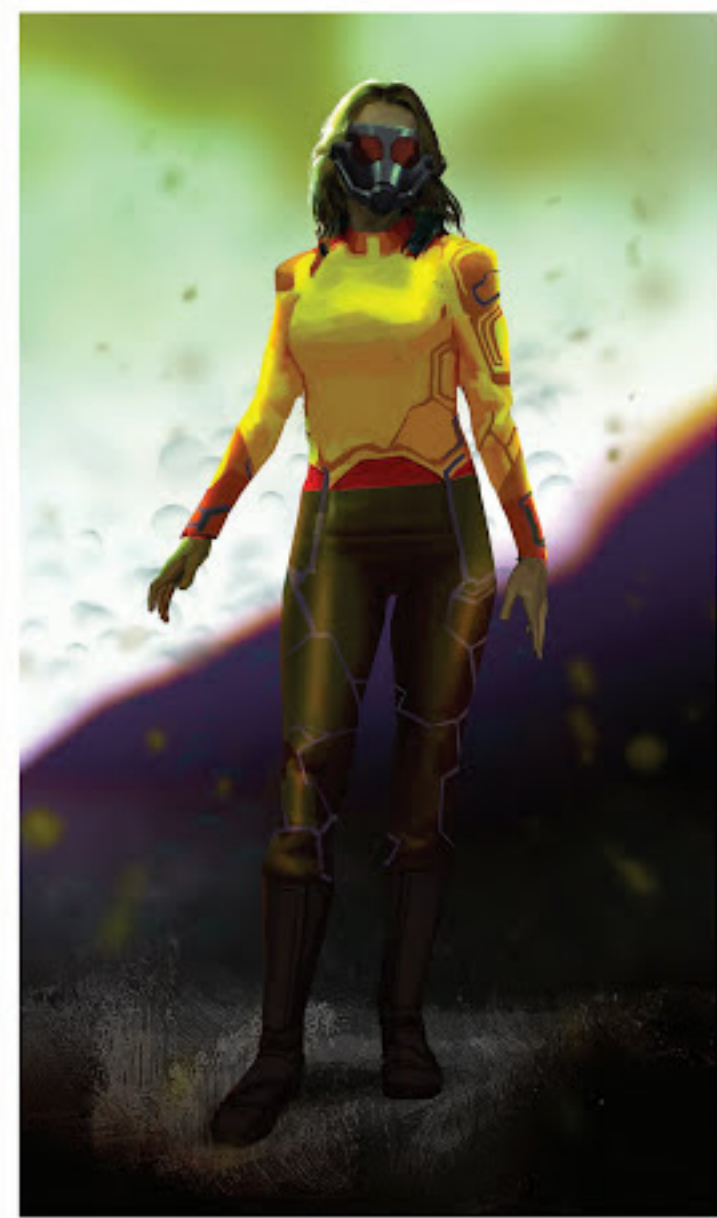
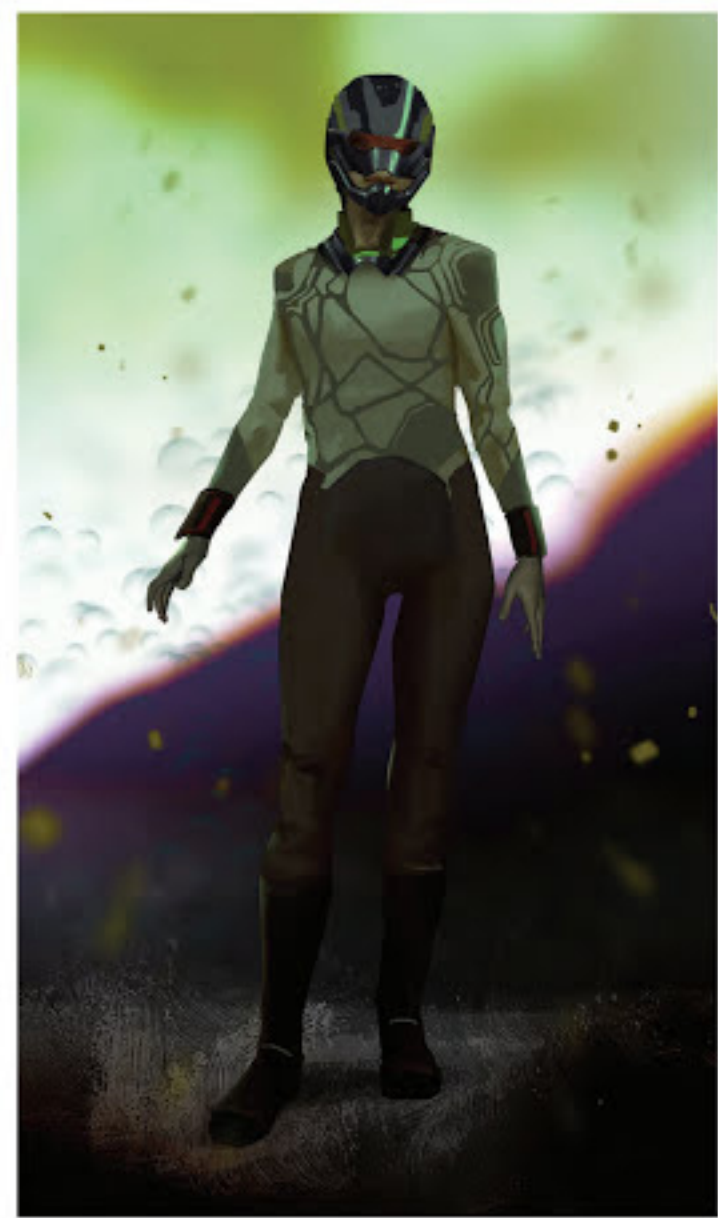
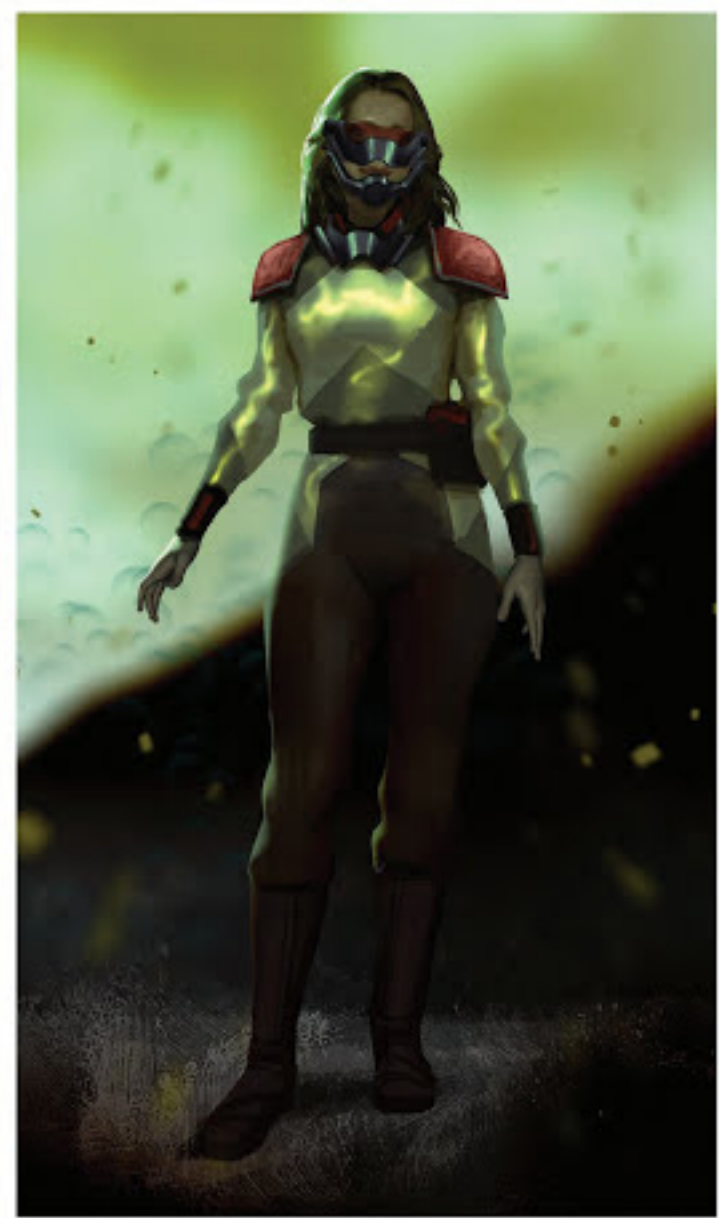
"I wasn't familiar with Janet Van Dyne before this," says actor Michelle Pfeiffer, who plays Janet. "I loved that she's such a seminal character in the Marvel comic-book world, and that she was one of the founding members of the Avengers and a really important super hero in this world, and how excited that this demographic of people got when they found out that she was coming back.

"I also loved that, at this phase in my life, I'm playing a super hero. I think it's incredible. And I think the message that it sends to women of all ages and all demographics that we are still kicking ass and that we're strong, and we're independent, and we're fierce and capable and vital parts of society—I loved sending that message out in the universe. Hell yeah!"

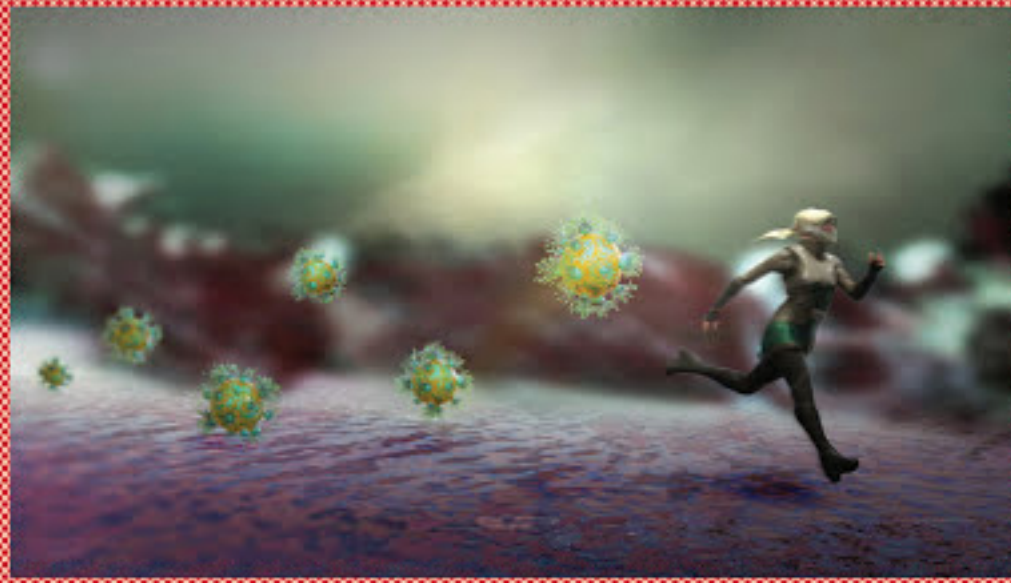
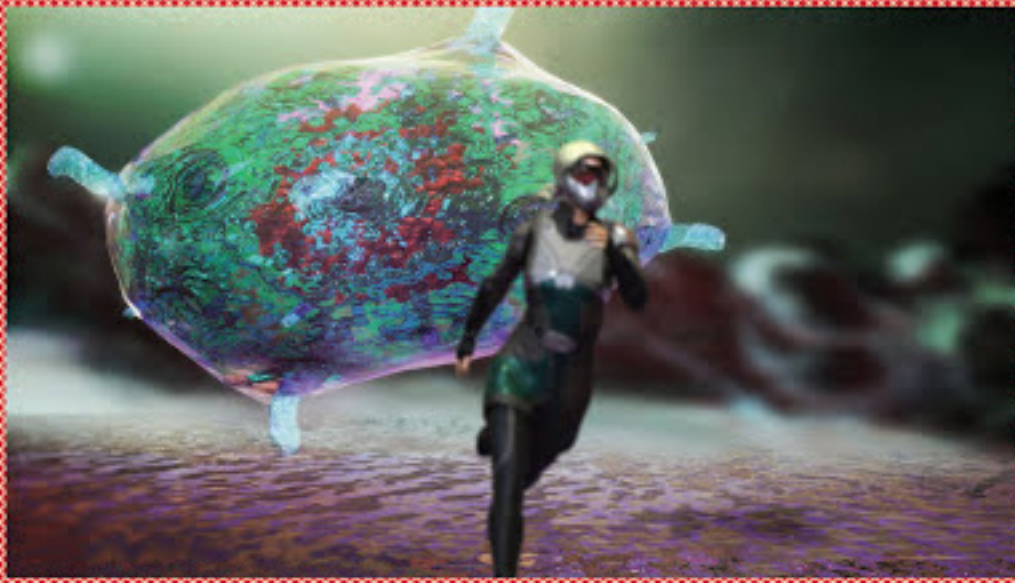












SURVIVAL AT THE QUANTUM LEVEL

The creatures inhabiting the Quantum Realm were both key to Janet's survival and a constant threat. "The mandate for the creatures was to have some be friendly looking and some be very intimidating," Fuentebella says. "One idea I had was to create a creature that had something that looks like a face that might not necessarily be a face. I also created some things that looked like something innocent—like a floating jellyfish—but when it started to do something, it would transform itself into something more aggressive looking. I wanted to play with those ideas of having things feel like one thing, but in essence be something else. Make this world feel like something that's very foreign and hostile in its own special way."



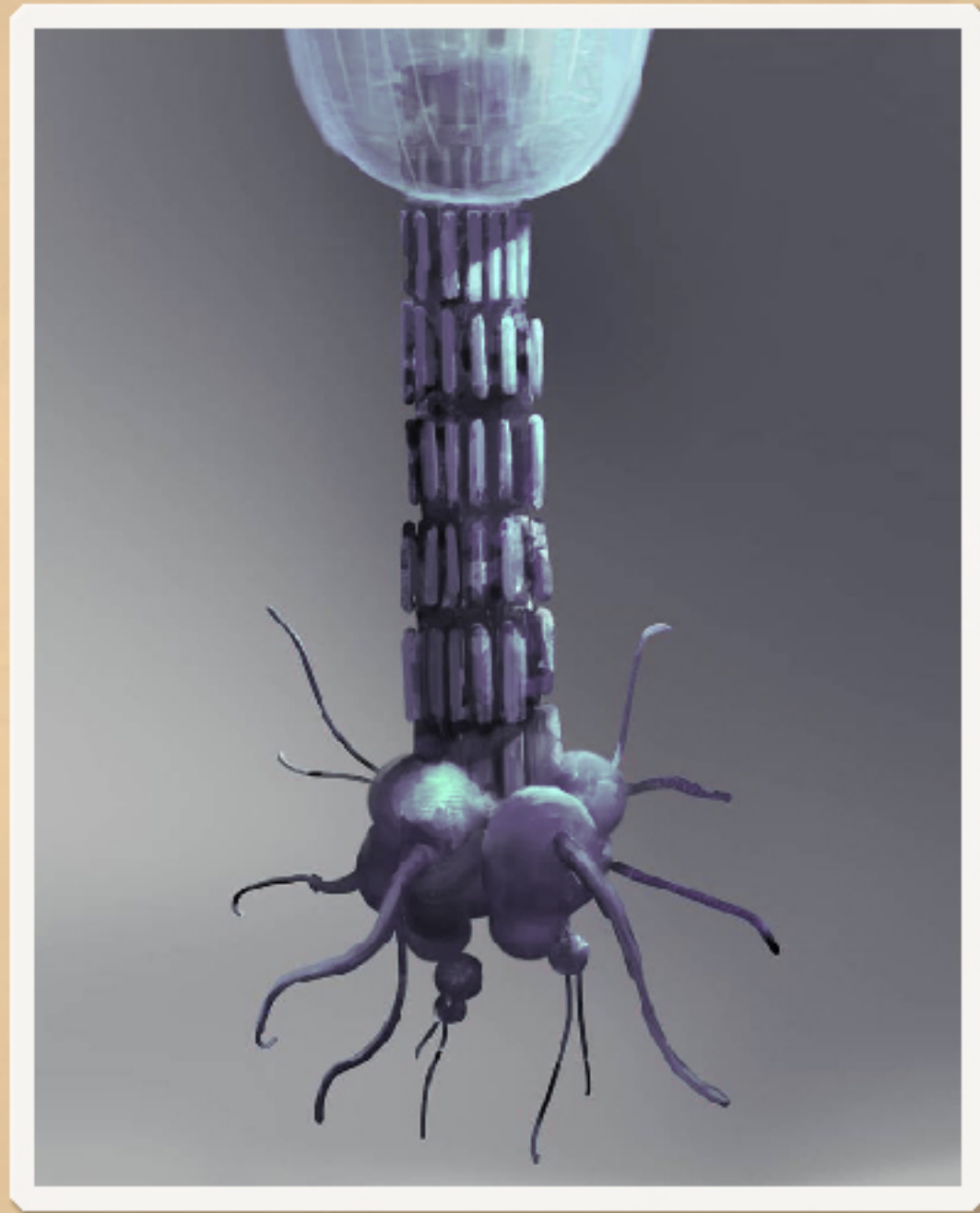
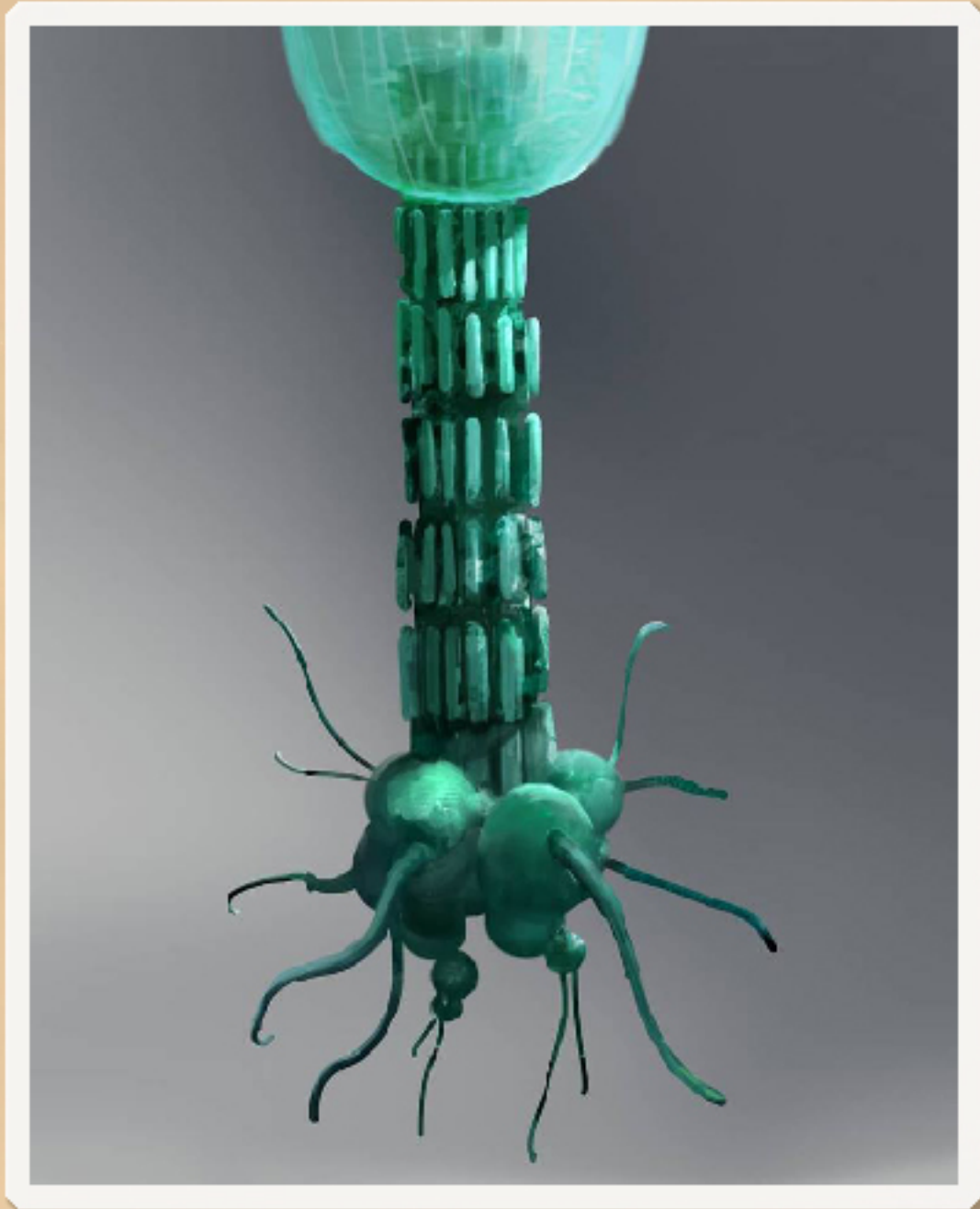
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FUENTEBELLA ■



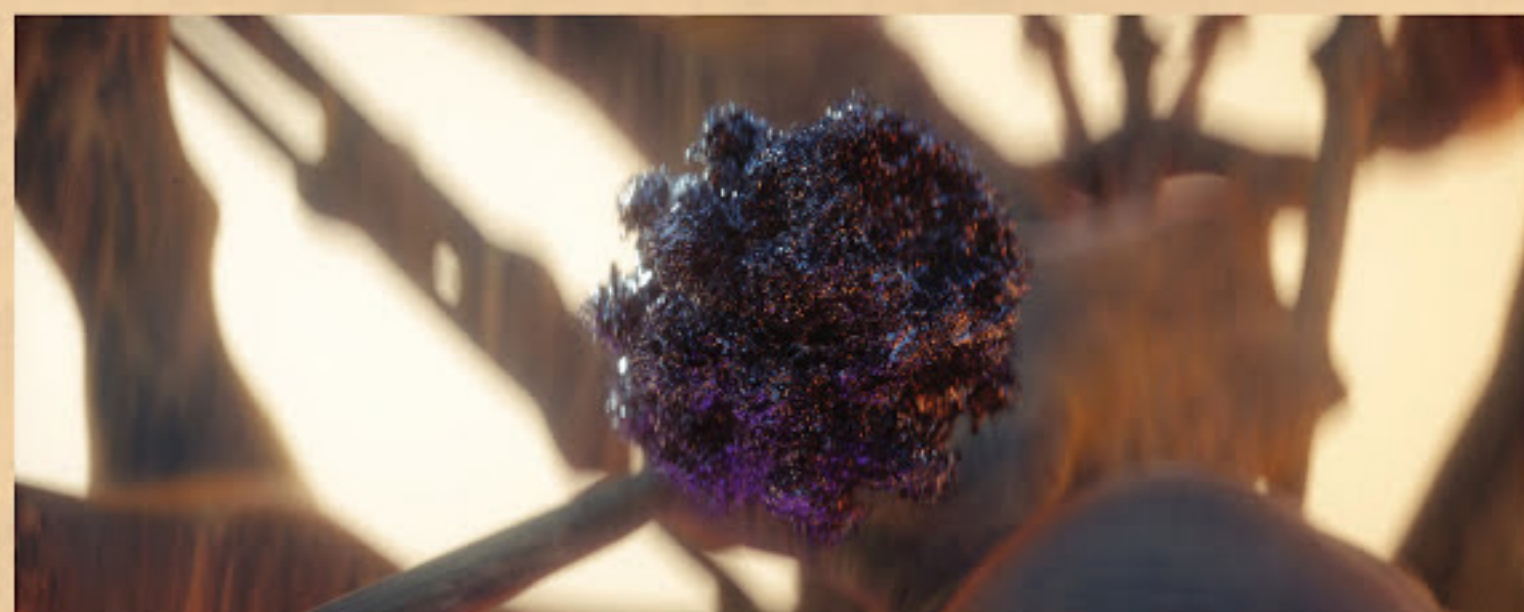
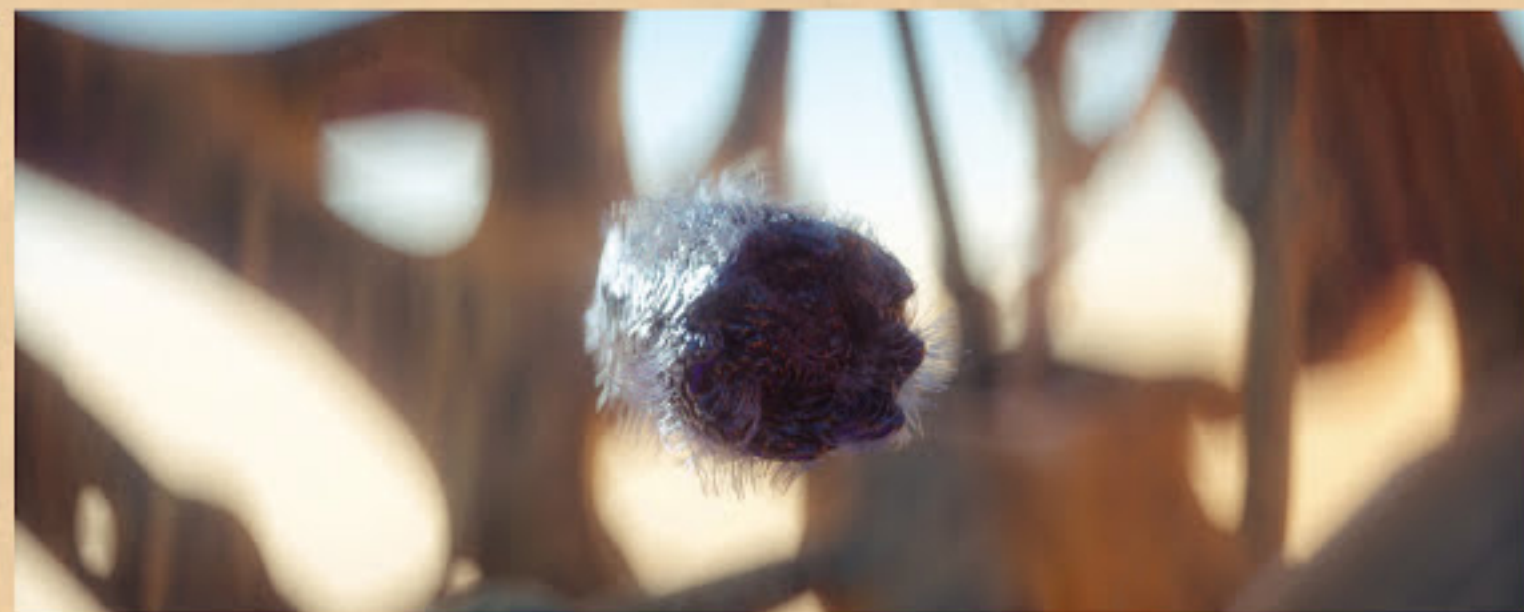






"The creatures were fun," Francisco says. "We tried to figure out unique-looking creatures. Do they feed on the environment, or is there a whole food chain? And it was fun figuring out which creatures could be predators and which could be prey, and how they moved around in the Quantum Realm. Another big task was to figure out how Janet would be able to incorporate some of the creatures' bodies into her armor."

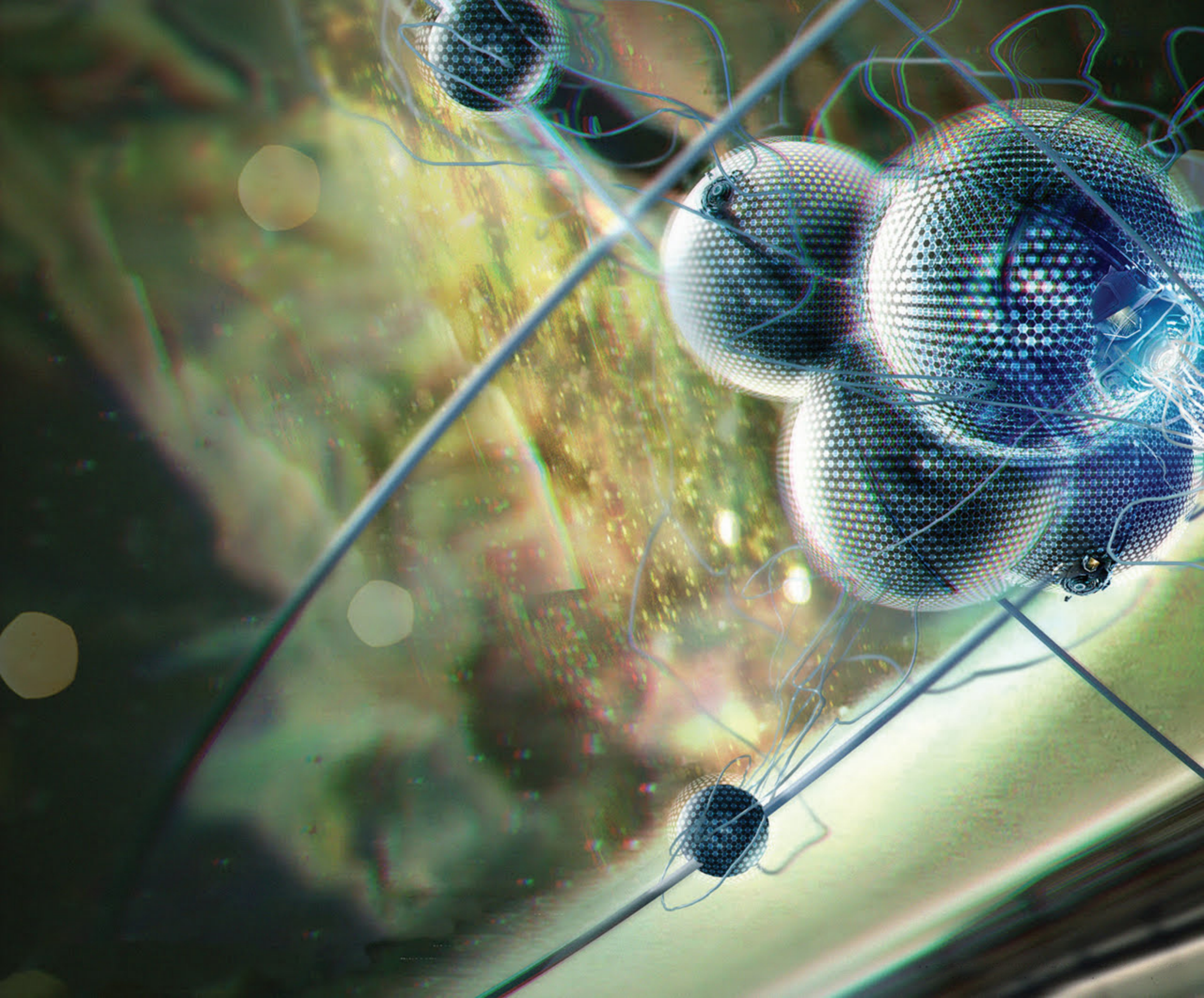
▲ FRANCISCO



▲ SCHIRLE











HANK PYM
LOG ENTRY:







Fig. A.1



Fig. A.2



IN MARVEL STUDIOS' 10-YEAR HISTORY, I see Ant-Man as the ultimate underdog. After all, he's a character called "Ant-Man." It doesn't invoke a sense of power, heroism, or coolness. In the first trailer for the first film, Scott Lang even says, "Is it too late to change the name?" But that's the whole charm of the character and the film. You don't expect him to be cool...but he is. We just had to convince you. And who better to play that underdog than Paul Rudd.

I remember meeting Paul for the first time on the first *Ant-Man* film. It was actually during his final costume fitting in the Marvel Studios offices. I entered the room and he had the full costume on. You have to remember that this is a costume I had the good fortune of designing, that I spent weeks upon weeks fine-tuning. I spent hours painting, researching, and exploring every single aspect of his costume—from the materials, to the function, to the specific aesthetics of the suit and helmet. I lived and breathed the Ant-Man design for quite a long while. But it was all done at my desk, on my screen, alone in my office. So when I finally walked into that room and saw it in front of me for the first time, expertly built by Costume Designer Sammy Sheldon and Head Specialty Costume Creator Ivo Coveney, I was simply floored! It was a combination of meeting THE Paul Rudd AND seeing my design come to life. I had to keep it together. But it was an amazing experience seeing a similar excitement in Paul's eyes. He had a giddiness to him of seeing himself as a super hero for the first time that made it that much more rewarding. We bonded in our giddiness!

One of the great things about working here at Marvel Studios is that there is a sense of ownership to designs. So I've been fortunate enough to be able to do all the subsequent designs of Ant-Man in his next appearances. On *Captain America: Civil War*, I was able to modernize the suit. How would Hank Pym update the suit with today's technology and Scott's input? I imagined Scott annoyingly giving his design suggestions over Hank's shoulder. It would be slicker, modern, and dare I say cooler. This time, Costume Designer Judianna Makovsky, along with Legacy Effects, took my 2-D concept design and made the actual costume for Paul. I took a more active role in its manufacturing as

the lead character concept artist under the leadership of Head of Visual Development Ryan Meinerding. I was able to art-direct the making of the helmet and the other hard pieces of the suit such as the gauntlets, tubing, belt, and backpack. It was such a rewarding experience.

The second time I got to see Paul was at his Ant-Man 2.0 *Civil War* costume fitting. I had that similar feeling of seeing a concept design I spent so much time on coming to life in front of my eyes. It was pretty awesome! Paul by this time was a veteran Marvel Studios super hero, so he was less giddy given how uncomfortable these super hero suits are in real life. But he had a new excitement due to the fact that he was joining the ranks of the other super heroes of the MCU. He felt like he was really part of the MCU team.

About a month or two later, I got to go on set the day they filmed the Team Cap vs. Team Iron Man airport scene. I was especially excited to see all the Ant-Man scenes: fighting against Black Widow, riding on top of War Machine, running toward Team Iron Man, and of course growing into Giant-Man. It was an amazing—albeit super-hot—day in Atlanta, Georgia.

So suffice it to say I was more than excited to get started on *Ant-Man and the Wasp*. How do I update the Ant-Man suit this time? The idea for this movie was that Hank did yet another updated suit, but this time without Scott's input. So I looked back at the original Ant-Man design and asked myself what was successful about this look. And then I did the same thing I did with the *Civil War* Ant-Man design. I basically took the best of both worlds to create Ant-Man 3.0. This time I made sure to bring a lot of the first look since the 2.0 was quite a drastic change in appearance. From a story perspective, Hank is still the one designing the suits, but this time he didn't have Scott breathing over his shoulder. But he had to admit that a lot of the 2.0 was pretty darn cool—though he would never tell Scott that.

While the name Ant-Man won't instill fear in the bad guys, the Wasp definitely does. It's the antithesis of the name Ant-Man. Wasps are quick and intimidating. They can sting you. That is exactly the contrast of these two characters. And just like the perfect casting of

Paul Rudd as Scott Lang, the same can be said of Evangeline Lilly as the Wasp. She exudes that perfect combination of confidence and intimidation as the Wasp and a gentle vulnerability in her moments with her father.

I didn't get to meet Evangeline until this movie, and what can I say about her? She is simply awesome. The giddiness I saw in Paul during the first film was mirrored by Evangeline during the many fittings we had fine-tuning her look with Costume Designer Louise Frogley and Coveney. After all, this was her first time being a super hero (unless you count *The Hobbit... or Lost*). She had to sit back and watch Paul do the fun action in the first film. So this was her chance to let loose and really shine. And she certainly did that in spades. I got to watch both her and Paul on set filming some pivotal action sequences. If you follow her on social media, you know just how physically fit and active she is. She was certainly game in doing a lot of her own stunts. It was simply a pleasure to watch both of them in action together. I felt like a proud papa!

Just like Paul and Evangeline were perfectly cast, I can say the same about our fearless director, Peyton Reed. Peyton took the challenge of taking on the mantle during the later half of preproduction on the first film and made it his own. I absolutely loved the first film and its quirky sensibility. It's a strange premise, but Peyton knew that in its inherent strangeness lay its secret to success. And Peyton has taken that magic and applied it to this sequel. I absolutely loved every single moment working on this film. Peyton is such a great collaborative director. He truly trusts his team, and I certainly felt that trust from day one. Even though my job is mainly to design, paint, and then present our ideas in illustrative form, there are moments when simple conversations can make big impacts. One particular conversation happened after I read an early draft of the film. I felt like the film needed a stronger villain. I had a conversation with Development and Franchise Executive Will Corona Pilgrim about who that could be. He suggested Ghost. Pause. I remember that character during the days I used to read *Iron Man* comic books during my adolescent years, and I instantly knew that was who it should be. I immediately arranged a meeting with Peyton and gave him my thoughts on the script and the idea of having Ghost as the main antagonist.

The next day I found out that the Ghost was now in the film. Wow! That kind of thing doesn't really happen very often. But that's the kind of director Peyton is. He's always open to ideas. But he also has an assured confidence once decisions are made. It was also great to see how he handled himself on set. No matter how stressful things got, I don't think I ever saw him without a smile on his face. He also exuded that giddiness that I saw in Paul and Evangeline. It's always a pleasure working with passionate people.

But the absolute best part of my job is working with the perfect team in the Visual Development department. I can always have confidence in our core team members to deliver such inspired design solutions, whether it be amazing character designs or inspiring keyframe illustrations from Jackson Sze, Rodney Fuentebella and Anthony Francisco. Adam Ross is our resident 3-D modeler, and he does an amazing job bridging the gap between our concept designs and the practical builds that go on the costumes of the real actors. And then I was able to bring on a group of amazing freelance artists that brought so much to the table: Tully Summers, Ian Joyner, Stephen Schirle, Aleksi Briclot, Josh Herman, and Michael Kutsche. And of course I have to give a shout-out to the head of our Visual Development department, Ryan Meinerding. He, along with Charlie Wen, created this department way back in 2010 and hired me. I'll eternally be thankful to both of them for bringing me on this amazing journey. They are both an inspiration.

I have to give a shout-out to the amazing collaborators in the Costume Department, starting of course with Costume Designer Louise Frogley and Head Specialty Costume Creator Ivo Coveney. It was Louise and Ivo who had the challenging job of actually creating these crazy-looking costumes. They both did an amazing job. Ivo and his team created all the helmets and all the specialty pieces on all the characters suits for Ant-Man, Wasp, Ghost, Hank, and the original Janet Wasp. They impressed me so much with their skill and dedication. It was truly an honor to be embedded with their department for weeks upon weeks on this film. I learned a lot and certainly don't take what they do for granted. They're truly great artists! The same could be said for all the great people

in the Costume Department. A specific shout-out goes to Rosalie Lee and April McCoy for putting up with my often very specific art direction. I completely recognize how hard it is to make these designs we do come to life on a real person. But they took the challenge and made some of the most beautiful costumes I've ever seen, in my opinion. Every single costume build on this film is truly a work of art. And that's due to the skill and creativity of everyone in the Costume Department and all the specialty builders.

And of course this film doesn't just consist of characters walking around in a void. The amazing visuals of the world were expertly designed by Production Designer Shepherd Frankel, and the fantastic visual effects that make us believe that shrinking (or growing) can be a cool power were created under the great leadership of Visual Effects Supervisor Stéphane Ceretti. It was pleasure working with these two and all the amazing talent in their departments.

Last but not least, I want to thank the leadership of Marvel Studios. It's because of them that we've experienced 10 years of successful movies. That's unprecedented in Hollywood history! And it's because they understand the source material that is Marvel Comics. They understand how to tell a great story. They understand how to make a great film. And they understand how to bring on the right people for every film, from the directors to the writers to the heads of each department to the actors. It's all a collaboration. They know their strengths and know the strengths of the people around them. That makes for great leadership. I'm honored to work for Kevin Feige, Louis D'Esposito, Victoria Alonso, and Stephen Broussard.

Ant-Man and the Wasp is a film about two small heroes that make a big impact on the MCU. My friends don't laugh anymore when I tell them I'm working on Ant-Man (and the Wasp) like they did the first time around. It's because these super heroes are seen as super (and cool) now. The underdog has become a bonafide Goliath...or should I say Giant-Man?


ANDY PARK

Contributor Bios

DIRECTOR PEYTON REED is the director of *Bring It On*, *Down with Love*, *The Break-Up*, *Yes Man*, *Ant-Man*, and *Ant-Man and the Wasp*. His hobbies do not include skydiving or golf.

PRODUCER AND MARVEL STUDIOS PRESIDENT KEVIN FEIGE has been the driving creative force behind several billion-dollar franchises and an unprecedented number of blockbuster feature films, all connected to create the Marvel Cinematic Universe. In his current role as producer and president of Marvel Studios, Feige is a hands-on producer and oversees Marvel Studios' feature film productions, whose 18 films released all have opened No. 1 at the box office and collectively grossed over \$13 billion worldwide. Most recently, Feige produced *Black Panther*, which continued Marvel's unprecedented success. The blockbuster film recorded the fifth biggest opening weekend of all time and is now the highest grossing super hero film of all time at the domestic box office. He also produced *Avengers: Infinity War* and *Ant-Man and the Wasp*. In 2017, Feige produced *Thor: Ragnarok*, *Guardians of the Galaxy Vol. 2*, and *Spider-Man: Homecoming*. Feige is currently producing *Captain Marvel* and the untitled fourth installment of the *Avengers* series. In 2016, Feige launched another franchise with *Doctor Strange*, which continued the streak of No. 1 openings, and produced *Captain America: Civil War*, the highest-grossing film of 2016 worldwide. In 2015, he launched another successful franchise with *Ant-Man*, starring Paul Rudd, and earlier that year he produced *Avengers: Age of Ultron*, the fourth-largest domestic opening weekend of all time. In 2014, Feige produced *Guardians of the Galaxy*, starring Chris Pratt, and *Captain America: The Winter Soldier*, which broke the opening record for an April release. In 2013, Feige produced the megahits *Thor: The Dark World* and *Iron Man 3*.

In 2012, Feige produced the critically acclaimed Marvel's *The Avengers*, which set an all-time domestic three-day weekend box-office record. The film went on to become Disney's highest-grossing global and domestic release at the time. In 2011, Feige produced and successfully launched two Marvel film franchises, *Captain America: The First Avenger*, directed by Joe Johnston and starring Chris Evans, and *Thor*, directed by Kenneth Branagh and starring Chris Hemsworth. In 2010, Feige produced *Iron Man 2*, directed by Jon Favreau and starring Robert Downey Jr. and Gwyneth Paltrow. In summer 2008, Feige produced the first fully developed and financed films from the new Marvel Studios, including the blockbusters *Iron Man*, directed by Jon Favreau, and *The Incredible Hulk*, directed by Louis Leterrier. Feige joined Marvel in 2000 and served as executive producer on the second and third *Spider-Man* films. Feige also co-produced *X-Men 2*, the second installment of the popular *X-Men* franchise, and executive produced *X-Men: The Last Stand*, among many other Marvel-branded films. A graduate from the University of Southern California's School of Cinematic Arts, Feige first worked for Lauren Shuler Donner and Richard Donner at their Warner Bros.-based production company, which released the action-adventure *Volcano* and the hit romantic comedy *You've Got Mail*. Feige earned his first producer credit on *X-Men*, a film that is credited with revitalizing the comic book genre.

EXECUTIVE PRODUCER AND MARVEL STUDIOS CO-PRESIDENT LOUIS D'ESPOSITO served as executive producer on the blockbuster hits *Iron Man*, *Iron Man 2*, *Thor*, *Captain America: The First Avenger*, *Marvel's The Avengers*, *Iron Man 3*, *Thor: The Dark World*, *Captain America: The Winter Soldier*, *Guardians of the Galaxy*, and most recently *Captain America: Civil War*, *Avengers: Age of Ultron*, *Ant-Man*,

Doctor Strange, *Guardians of the Galaxy Vol. 2*, *Spider-Man: Homecoming*, *Thor: Ragnarok*, *Black Panther*, and *Ant-Man and the Wasp*. He is currently working on the highly anticipated films *Captain Marvel* and *Avengers: Infinity War*, as well as collaborating with Marvel Studios President Kevin Feige to build the future Marvel slate. As co-president of the studio and executive producer on all Marvel films, D'Esposito balances running the studio with overseeing each film from its development stage to distribution. In addition to executive-producing Marvel Studios' films, D'Esposito directed the Marvel One-Shot *Item 47*, which made its debut to fans at the 2012 San Diego Comic-Con International and was featured again at the LA Shorts Fest in September 2012. The project was released as an added feature on the Marvel's *The Avengers* Blu-ray disc. D'Esposito also directed the second Marvel One-Shot *Agent Carter*, starring Hayley Atwell, which premiered at the 2013 San Diego Comic-Con to critical praise from press and fans, and is an added feature on the *Iron Man 3* Blu-ray disc. The One-Shot's popularity led to development of the TV series *Marvel's Agent Carter*. D'Esposito began his tenure at Marvel Studios in 2006. Prior to Marvel, D'Esposito's executive-producing credits include the 2006 hit film *The Pursuit of Happyness*, starring Will Smith; *Zathura: A Space Adventure*; and the 2003 hit *S.W.A.T.*, starring Samuel L. Jackson and Colin Farrell.

EXECUTIVE VICE PRESIDENT OF PHYSICAL PRODUCTION VICTORIA ALONSO is one of the very few women in Hollywood to hold such a title. Over the years, Alonso's dedication to the industry has been admired and her achievements recognized. She was recently listed as one of Hollywood Reporter's 2017 Women in Entertainment Power 100. In 2015, she was an honoree of the New York Women in Film & Television's

Muse Award for Outstanding Vision and Achievement. She was also the first woman to be presented with the Harold Lloyd Award from the Advanced Imaging Society, which is given to a filmmaker who has created a body of work, and specific achievements in 3-D, that advanced the motion picture art form. In 2017, she was the first woman to be honored with the Visionary Award at the 15th Annual VES Awards for her advancement of unforgettable storytelling through visual effects. A native of Buenos Aires, Alonso began her industry career in visual effects (first in commercials, then features) including a four-year stint at Digital Domain. She served as VFX producer on a handful of films, notably Ridley Scott's *Kingdom of Heaven*, Tim Burton's *Big Fish*, Andrew Adamson's *Shrek*, and Marvel's *Iron Man*. She won the Visual Effects Society (VES) Award for outstanding supporting visual effects/motion picture for *Kingdom of Heaven*, with two additional shared nominations (best single visual effects, outstanding visual effects/effects-driven motion picture) for *Iron Man*. Upon joining Marvel in her current role, Alonso doubled as co-producer on *Iron Man*, a role she reprised on *Iron Man 2*, *Thor*, and *Captain America: The First Avenger*. She graduated to executive producer on 2011's *Marvel's The Avengers*, and has since executive produced *Iron Man 3*, *Captain America: The Winter Soldier*, *Captain America: Civil War*, *Thor: The Dark World*, *Avengers: Age of Ultron*, *Ant-Man*, *Guardians of the Galaxy*, *Doctor Strange*, *Guardians of the Galaxy Vol. 2*, *Spider-Man: Homecoming*, *Thor: Ragnarok*, *Black Panther*, and *Ant-Man and the Wasp*. Currently, Alonso is working on *Avengers: Infinity War*, the untitled fourth installment of *Avengers*, and *Captain Marvel*.

EXECUTIVE PRODUCER STEPHEN BROUSSARD works in Production & Development at Marvel Studios, where, alongside his

colleagues in the feature film division, he is responsible for creative oversight of the studio's slate. Joining Marvel in 2004, he was part of the team that helped usher in a new era of filmmaking at Marvel Studios whereby they began to independently produce movies, the first of which was the blockbuster *Iron Man* in 2008. That same year, he served as associate producer of *The Incredible Hulk* directed by Louis Leterrier and starring Edward Norton, Liv Tyler, Tim Roth, and William Hurt. He was also Co-Producer of *Captain America: The First Avenger*, starring Chris Evans, Tommy Lee Jones, Hayley Atwell, Hugo Weaving, and Stanley Tucci and directed by Joe Johnston. Broussard was an Executive Producer of *Iron Man 3*, starring Robert Downey Jr., Gwyneth Paltrow, Sir Ben Kingsley, and Guy Pearce and directed by Shane Black. *Iron Man 3* is among the highest-grossing movies of all time. Most recently he introduced the world of the Mystic Arts into the Marvel Cinematic Universe as Executive Producer of *Doctor Strange*. Broussard attended the Florida State University Graduate Film School. While there, he produced a short film ("The Plunge") that would go on to win AMPAS's Student Academy Award and an Academy of Television Arts & Sciences College Television Award. In 2011, Broussard was named as one of *Variety's* "Hollywood's New Leaders."

EXECUTIVE PRODUCER CHARLES NEWIRTH recently served as executive producer on Marvel Studios' blockbuster *Doctor Strange*. He was also executive producer on Marvel Studios' *Iron Man 3* and the films *Hugo* and *Zookeeper*. From 2000 to 2007, he was responsible for the physical production on all of Revolution Studios' motion pictures, including *Black Hawk Down*, *Anger Management*, *Mona Lisa Smile*, *Hellboy*, *13 Going on 30*, *Click*, and *Rocky Balboa*. While at Revolution, Newirth also served as executive producer on *The Water Horse: Legend of*

the Deep, *Across the Universe*, *Peter Pan*, *Maid in Manhattan* and *The One*. Prior to joining Revolution Studios, Newirth produced *Galaxy Quest*, *Patch Adams*, and *Home Fries*. Newirth's additional credits as an executive producer include Brad Silberling's *City of Angels*, Rob Reiner's *The American President*, and true-life drama *Ghosts of Mississippi*. In addition, Newirth co-produced Robert Zemeckis' Academy Award-winning blockbuster *Forrest Gump*. He also served as a co-producer on the Barry Levinson films *Toys* and the multiple Oscar-nominated *Bugsy*, and as an associate producer on Levinson's *Avalon*. Raised in Scarsdale, New York, Newirth received a B.A. in Cinema from Ohio State University. He broke into the film industry as a location manager on such films as *Flashdance*, *Pretty in Pink*, and *Ferris Bueller's Day Off*. He later moved up to production manager on *Throw Momma from the Train* and *RoboCop* before getting his first producing credit as an associate producer on Andrew Davis' *The Package*.

CO-PRODUCER AND VICE PRESIDENT OF PHYSICAL PRODUCTION MITCH BELL started with Marvel Studios in 2010. He served as Co-Producer and Marvel Studios Production Executive on *Ant-Man* and *the Wasp* and has overseen production in the same capacity on *Avengers: Infinity War*, *Spider-Man: Homecoming*, *Captain America: Civil War*, and *Avengers: Age of Ultron*. Earlier in his time with Marvel Studios, Mitch served as Associate Producer on *Captain America: The First Avenger*, *Iron Man 3*, and *Captain America: The Winter Soldier*. Mitch was Executive Producer on several one-shots for Marvel, including *Item 47* and *Agent Carter*, and is currently working on as-of-yet untitled 4th Avengers film. Prior to joining Marvel Studios, Mitch was a freelance production supervisor with over 20 years of experience in both features and television. Originally from

Fort Collins, Colorado, Mitch moved to Los Angeles in the early '90s and started his career as a Production Assistant at Imagine Films.

VISUAL EFFECTS SUPERVISOR STÉPHANE CERETTI is a native of France, with a background in physics and the arts. Ceretti started in the VFX industry working as a digital artist for Buf Compagnie in Paris in 1996. He began his career with *Batman and Robin* and then moved to numerous commercials where he acquired all the skills to supervise both shoot and post, before advancing to VFX supervisor for Buf on Tarsem's *The Cell*. From this point, Ceretti has been involved as VFX supervisor on major feature films such as the Wachowskis' *Matrix* sequels, as well as Oliver Stone's *Alexander*. In the last few years, Ceretti sharpened his supervisor skills on various genres of films from *Harry Potter and the Goblet of Fire* to *Batman Begins* and *Silent Hill*. Ceretti has been overall VFX supervisor for his last two projects at Buf: *The Prestige*, by world-acclaimed Director Christopher Nolan, as well as the latest movie from French Director Mathieu Kassovitz, *Babylon A.D.*, a Fox/Studio Canal production. He then joined MPC and Method studios in London where he supervised the VFX work on movies such as *Prince of Persia: The Sands of Time*. Ceretti's first adventure with Marvel Studios was to be the 2nd VFX supervisor on the shoot of Joe Johnston's *Captain America: The First Avenger*. After joining Fox Studios to work with John Dykstra as an additional VFX supervisor on Matthew Vaughn's *X-Men: First Class*, he co-supervised, with Dan Glass, the Visual Effects of the Warner Bros. movie *Cloud Atlas*, directed by Lana and Lilly Wachowski and Tom Tykwer. Following his work on Marvel's *Thor: The Dark World* as a 2nd Unit Supervisor, Stephane joined Marvel's *Guardians Of the Galaxy* as the main Production VFX Supervisor where his work garnered an

Oscar nomination for Best Achievement in Visual Effects, as well as nominations at the 2015 BAFTAs and Visual Effect Society (VES) Awards. He then joined *Doctor Strange* as the VFX Supervisor, receiving an Oscar nomination for Best Achievement in Visual Effects.

VISUAL EFFECTS PRODUCER SUSAN PICKETT began her career in film as a production assistant in New York, where she worked as a set PA and a 2nd AD on numerous features before transitioning into VFX. She worked as a VFX coordinator on several films involving VFX and animation—including *Fat Albert*, *Garfield: A Tale of Two Kitties*, and *Fantastic Four: Rise of the Silver Surfer*. She then linked up with Marvel's Executive Producer Victoria Alonso, and worked as VFX production manager on *Iron Man*. Now working as a VFX producer, she has been at Marvel for ten years and has worked on *Iron Man 2* and *Marvel's The Avengers* in addition to *Guardians of the Galaxy* and *Doctor Strange*. In addition to working on over 30 feature films, Susan is a member of the Directors Guild of America, the Producers Guild of America, the Visual Effects Society, and The Academy of Motion Picture Arts and Sciences.

PROPERTY MASTER ANDREW M. SIEGEL began his career in the film business by answering an ad for an assistant art director on the "help wanted" board at California State University at Northridge in 1988. A series of misdirections and prevarications led to jobs on the set of Pee Wee's *Playhouse*, as well as miniature building and puppeteering on films such as *The Blob* and *The Abyss*. Since then, he might have accidentally become qualified for the job of Property Master, a position he has enjoyed on such films as *Avatar*, *The Green Hornet*, *The Amazing Spider-Man*, and a couple of films with *Star Trek* in the title.

Contributor Bios

CINEMATOGRAPHER DANTE SPINOTTI is a versatile cinematographer whose recent credits include the thriller *Traffic*, starring Paula Patton, Trudie Styler's *Freak Show* and Marc Abraham's Hank Williams biopic *I Saw the Light*. The cinematographer earned his first Academy Award nomination and a Los Angeles Film Critics Award for Curtis Hanson's 1997 period drama *L.A. Confidential* (with additional nominations from the American Society of Cinematographers and BAFTA), followed by a second Oscar nomination and Los Angeles Film Critics Award two years later on Michael Mann's acclaimed true-life drama *The Insider*. Spinotti has worked with Mann on four other projects, including *Manhunter*, *The Last of the Mohicans* (for which the cinematographer won the BAFTA Award and earned his first nomination from the ASC), *Heat*, and *Public Enemies*. Spinotti has also enjoyed repeat collaboration with director Michael Apted (*The Chronicles of Narnia: The Voyage of the Dawn Treader*, *Blink*, and *Nell*) and director Brett Ratner (*Hercules*, *Tower Heist*, *X-Men: The Last Stand*, *After the Sunset*, *Red Dragon*, and *The Family Man*). Spinotti reteamed with Curtis Hanson on his acclaimed 2000 comedy-drama *The Wonder Boys*, and has also directed the photography for such films as *Flash of Genius* and *The Quick and the Dead*. Other feature credits include *Hudson Hawk*, *True Colors*, and two films for which he won the David di Donatello Award, *La Leggenda del Santo Bevitore* and *Il Segreto del Bosco Vecchio*. Born in northeast Italy, Spinotti discovered his interest in film photography in his early teens. He traveled to Milan, where he gained professional experience in Italian television films, including the 1972 TV miniseries *I Nicotera* and 1975's *Tracce Sulla Neve*. Breaking into feature films, Spinotti worked extensively in his homeland, in collaborations with Lina Wertmüller (1984's *Sotto...Sotto...*

Strapazzato da Anomala Passione) and Liliana Cavani (*Interno Berinese*, 1985), before coming to America to work with Mann on *Manhunter*. In addition to his individual film honors, Spinotti was honored with the Lifetime Achievement Award from the American Society of Cinematographers (ASC) in 2012 and received the 2009 Camera Image Award at the XVII International Film Festival of the Art of Cinematography in Lodz, Poland, celebrating his body of work. Keeping with their annual tradition, the festival published a book illustrating his career achievements.

PRODUCTION DESIGNER SHEPHERD FRANKEL was born and raised in New York City. He attended the LaGuardia School of the Arts before relocating to the west coast and earning a master's in Architecture from the School of Architecture and Urban Planning at UCLA. Quick on his feet, upon graduating from UCLA, the highly creative Frankel was recruited to work on commercials as an assistant art director for a variety of commercial shops, including RSA for Tony Scott and Ridley Scott. His success in the commercial world led him to features, where he continued his development as an assistant art director, art director, and supervising art director on various films including Rob Minkoff's *Stuart Little 1 & 2*, Andy Tennant's *Sweet Home Alabama*, Paul Thomas Anderson's *Magnolia*, Jonathan Mostow's *Terminator 3*, Raja Gosnell's *Scooby Doo 2: Monsters Unleashed*, Pitof's *Catwoman*, Tim Story's *Fantastic Four*, and Todd Phillip's *Due Date*. Frankel has had an extensive history in delivering large-scaled films as well as great comedies as a production designer. Some of his previous work includes Seth Gordon's *Baywatch*, Marvel Studios' *Ant-Man*, Jason Bateman's *Bad Words*, Peter Billingsley's *Couples Retreat*, Anne Fletcher's *Step Up and 27 Dresses*, Richard LaGravenese's *P.S. I Love You*, and Zak Penn's *The Grand*.

He has previously collaborated with Marvel Studios as production designer on several Marvel One-Shots, *Item 47* and *Agent Carter*, both directed by Louis D'Esposito, and *All Hail the King*, directed by Drew Pearce. He also provided additional photography on *Thor: The Dark World*, *Guardians of the Galaxy*, *Avengers: Age of Ultron* and *Doctor Strange*. Between feature assignments, Frankel works with studios, directors and producers to develop concept presentations and design strategies for films. In addition, he has set the look for several successful television pilots and popular commercials.

COSTUME DESIGNER LOUISE FROGLEY is a highly regarded costume designer with decades of experience in the motion picture industry. Her credits span multiple genres with titles such as Marvel Studios' *Iron Man 3*, *The Finest Hours*, *Ides of March*, and award-winning films like *Traffic*, *Syriana*, and *Good Night, and Good Luck*. Her most recent work includes *Spider-Man: Homecoming* and the much-anticipated sequel to the 2015 hit movie *Ant-Man*, *Ant-Man and the Wasp*. She began her career working in London and Paris as a set decorator and costume designer for various commercial companies, including RSA Films.

HEAD OF VISUAL DEVELOPMENT RYAN MEINERDING has been active as a freelance concept artist and illustrator in the film business since 2005. Even early in his career, his work was already drawing the kinds of raves reserved for industry veterans. After earning a degree in industrial design from Notre Dame, he transitioned to Hollywood and worked on 2008's *Outlander*. He was hired at Marvel Studios for *Iron Man*, and after leaving briefly to do concept work for *Transformers: Revenge of the Fallen* and *Watchmen*, has been full time ever since. While working on *Iron Man 2*, Meinerding contributed the design for the new Iron

Man armor in the comic-book series *Invincible Iron Man*. He served as visual development co-supervisor on *Captain America: The First Avenger*, *Thor*, and Marvel's *The Avengers*. He then served as head of visual development on *Iron Man 3*, *Captain America: The Winter Soldier*, *Avengers: Age of Ultron*, *Captain America: Civil War*, *Doctor Strange*, *Spider-Man: Homecoming*, *Black Panther* and *Avengers: Infinity War*. He is currently working on *Avengers: Untitled* and the untitled *Spider-Man* sequel and loving every minute of it.

VISUAL DEVELOPMENT SUPERVISOR ANDY PARK studied as an art/illustration major at both UCLA and ArtCenter College of Design. His career began as a comic-book artist, fulfilling a childhood dream and illustrating such titles as *Tomb Raider*, *Excalibur*, and *Uncanny X-Men* for Marvel, DC, and Image Comics, among others. After a decade in the comic-book industry, he made a career switch and began working as a concept artist in video games. He was one of the leading artists designing the various worlds and fantastical characters/creatures of the award-winning *God of War* video game franchise for Sony Computer Entertainment of America. Park joined the Visual Development Department at Marvel Studios in 2010 as a visual development concept artist, designing characters and keyframe illustrations for *Marvel's The Avengers*, *Iron Man 3*, *Captain America: The Winter Soldier*, *Thor: The Dark World*, *Guardians of the Galaxy*, *Avengers: Age of Ultron*, *Ant-Man*, *Captain America: Civil War*, and *Guardians of the Galaxy Vol. 2*. He has since become the Visual Development Supervisor and led the department on *Guardians of the Galaxy Vol. 2*, *Thor: Ragnarok*, *Ant-Man and the Wasp*, and on the upcoming films *Captain Marvel* and *Guardians of the Galaxy Vol. 3*.





ARTIST CREDITS

Scott Baker

Laurent Ben-Mimoun

Aleksi Briclot

Susan A. Burig

Andy Chung

Adam Del Re

Patrick Dunn-Baker

Anthony Francisco

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Josh Herman

Ian Joyner

Michael Kutsche

Jeff Markwith

Ryan Meinerding

Andy Park

Jay Pelissier

Jamie Rama

Adam Ross

Stephen Schirle

Domenic Silvestri

Tully Summers

Jackson Sze

Evgeni Tomov

Clint Wallace

Dean Wolcott

Mark Yang



▲ PARK

ACKNOWLEDGMENTS

Victoria Alonso
Scott Baker
Laurent Ben-Mimoun
Aleksi Briclot
Stephen Broussard

Susan Burig
Andy Chung
Erika Denton
Matt Delmanowski
Louis D'Esposito

Patrick Dunn-Baker
Kevin Feige
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Stephen Schirle
Domenic Silvestri
Laura Stoltz
Tully Summers

Jackson Sze
Evgeni Tomov
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